HOUSE OF LORDS

SESSION 1987—88
3rd REPORT

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

PRIORITIES IN MEDICAL RESEARCH

VOLUME II—ORAL EVIDENCE

Ordered to be printed 1 March 1988

LONDON
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VOLUME II—CONTENTS

Page

ORAL EVIDENCE

Professor Sir David Weatherall
Written Evidence 1
Oral Evidence, 30 April 1987 6

Association of the British Pharmaceutical Industry
Written Evidence 18
Oral Evidence, 14 May 1987 22

**The Wellcome Trust*
Written Evidence 38
Oral Evidence, 2 July 1987 40

**Presidents of the Scottish Royal Colleges*
Written Evidence 51
Oral Evidence, 16 July 1987 57

Deans of the Scottish Medical Schools
Written Evidence 73
Oral Evidence, 16 July 1987 79

**Trent Regional Health Authority*
Written Evidence 97
Oral Evidence, 17 July 1987 101

Professor A G Johnson and Professor B T Williams, University of Sheffield
Oral Evidence, 17 July 1987 113

Professor J Richmond, University of Sheffield
Written Evidence 123
Oral Evidence, 17 July 1987 126

MRC/ESRC Social and Applied Psychology Unit, University of Sheffield
Written Evidence 135
Oral Evidence, 17 July 1987 137

Mr Robert Maxwell, King Edward's Hospital Fund for London
Written Evidence 147
Oral Evidence, 23 July 1987 149

Dr D M Humphreys
Written Evidence 158
Oral Evidence, 22 October 1987 160

Mr Peter Styles MBE
Written Evidence 168
Oral Evidence, 22 October 1987 170

Committee of Vice-Chancellors and Principals
Written Evidence 177
Oral Evidence, 29 October 1987 186

Royal College of Surgeons
Written Evidence 203
Oral Evidence, 5 November 1987 204

Scottish Home and Health Department
Written Evidence 222
Oral Evidence, 12 November 1987 227

Professor George Teeling Smith
Oral Evidence, 12 November 1987 237

*Supplementary evidence printed in Volume III.

Page

Association of University Teachers of General Practice and Heads of Academic Departments Group (Social and Community Medicine)
Written Evidence 243
Oral Evidence, 19 November 1987 254

Association of Clinical Professors of Medicine
Written Evidence 264
Oral Evidence, 19 November 1987 273

Centre for Health Economics
Written Evidence 282
Oral Evidence, 26 November 1987 293

Dr Claude Lenfant
Oral Evidence, 26 November 1987 304

Imperial Cancer Research Fund
Written Evidence 312
Oral Evidence, 1 December 1987 317

Association of Medical Research Charities
Written Evidence 328
Oral Evidence, 1 December 1987 337

Professor R Crow and Dr J Robinson (Nursing)
Written Evidence 349
Oral Evidence, 3 December 1987 350

Professor R Duckworth and Mr I Gainsford (Dental)
Oral Evidence, 3 December 1987 358

Medical Research Council
Written Evidence 365
Oral Evidence, 10 December 1987 376

University Grants Committee
Written Evidence 391
Oral Evidence, 17 December 1987 397

Department of Health and Social Security
Written Evidence 410
Oral Evidence 421

HOUSE OF LORDS SESSION 1987–88

MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

Thursday 30 April 1987

PROFESSOR SIR DAVID WEATHERALL

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MINUTES OF EVIDENCE

TAKEN BEFORE THE SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY (SUB-COMMITTEE II)

THURSDAY 30 APRIL 1987

Present:

Errol of Hale, L.	Perry of Walton, L.
Flowers, L.	Rea, L.
Hunter of Newington, L.	Sherfield, L.
Kearton, L.	Smith, L.
Lockwood, B.	Taylor of Blackburn, L.
Nelson of Stafford, L. (Chairman)	

Memorandum by Professor Sir David Weatherall

Personal involvement in medical research

As Professor of Clinical Medicine in Oxford I am responsible for directing the Nuffield Department of Clinical Medicine. Research in this department spans a fairly wide area extending from the epidemiology of common diseases such as heart disease and stroke through the study of patients with disorders such as diabetes and hypertension to the application of the new methods of molecular biology to the study of inherited diseases. My personal work has been in the latter field and I am Honorary Director of the Medical Research Council's Molecular Haematology Unit. I am also involved with the MRC in setting up the Institute of Molecular Medicine in Oxford that will attempt to draw together clinicians and basic scientists to study the application of the methods of molecular biology to human diseases including genetic disease, infectious disease, diseases of the nervous system, and cancer. The new Institute, which is being funded jointly by the MRC, Wolfson Foundation, E P Abraham Trust, and Imperial Cancer Research Fund, will open in 1988.

Overall, the Department of Medicine raises over £2 million per year in grants for research.

In addition to these activities my department is responsible for about one third of the clinical services in general medicine in Oxford and for specialist services in haematology, diabetes, hypertension, infectious disease and tropical medicine. I have represented the University for the last five years on the District Health Authority. I have sat on the MRC Boards and have helped the charitable organisations by sitting on the various panels of the Wellcome Trust, and am currently chairing the Science Panel of the Leukaemia Research Fund. I am also a member of the Oxford Regional Research Committee.

Thus I suppose that my time is spent between patient care and student teaching as an honorary NHS consultant, running my research group, and sitting on local and national committees which deal with various aspects of research. My first priority over the last few years has been to develop the Institute for Molecular Medicine in Oxford.

How are priorities for medical research set?

All the bodies that analyse priorities in medical research take the same general approach. They look over the total field of problems in clinical practice and then try to balance them with the type of applications that are coming in for research funding. Both the MRC and the charitable organisations very frequently define areas that need particular development and set aside funds for this purpose. However, the Committee should realise that medical research, like politics, is very much the art of the possible.

It is often said that the MRC tends to concentrate on the basic sciences to the detriment of practical problems in the Health Service such as low back pain or the management of the elderly. But it must be realised that there is only a limited scope for ''pushing'' science in a particular direction. For example, in the late 1960s or early 1970s President Nixon decided that, having set human beings on the moon, it would be desirable to put a major effort into curing sickle cell anaemia, a disease that affects a large number of the American Black population. Therefore an enormous quantity of money was put into an attack on this disease, probably a total that exceeds the entire scientific budget for medical research in this country for a year! The result has been years of detailed research which has told us more and more about less and less; the outcome for patients with the disease has been a total failure. Why? Simply because the science involved was not ready. It is clear to anybody looking back at the state of knowledge about the disease in the 1970s that however much money was put into the field there were no new concepts or directions in which the field might go and which would yield major clinical results.

This is the situation that currently exists with such intractable problems as low back pain. We need a great deal more information about the basic mechanisms of bone and muscle physiology and a completely new approach to the study of mechanics of the back before large amounts of money put into this field would have major clinical consequences.

Thus the *time* to move fast into a new field is the critical question that any scientific funding body has to get right. We were absolutely correct to back AIDS research over the last few months because the science has reached a stage of sophistication where we can reasonably expect practical results in a relatively short time.

Is the present balance between different branches of research right?

It is very difficult to tackle this question because the overall funding for both clinical and basic research in this country is currently at its lowest ebb. The clinical researchers have been hit by the cuts in the NHS, and university departments are being denuded of the staff required to run the "well-found laboratory". It is difficult to discuss priorities when the whole financial base for medical research is eroded to this level. All that the research councils and charitable organisations can do is to attempt to back excellence; they have virtually no room to manoeuvre to promote particular areas. This is an extremely dangerous situation because it tends to encourage programmes that look as though they might have immediate feedback and discourages more long term basic science.

The Committee should read one seminal paper on the development of the medical sciences. This is the report by Julius Comroe and Robert Dripps (Scientific basis for the support of biomedical science. Science, *192*, 105–111, 1976) which describes how the major advances in the treatment of heart disease have, by and large, come from unrelated work in the basic sciences. The message here is absolutely clear. Even if resources are strictly limited scientific funding bodies must take great care to ensure that good basic science is supported, otherwise the really important problems of medical care will not be solved. My personal view is that both the MRC and the charitable organisations have got this balance about right over the years. What is happening now is that both applied and basic science are grossly under-funded. This is having the particularly serious effect of preventing young people getting started on a career in medical research.

Are priorities in medical research adapting to changing incidences of disease and new technology?

In the United Kingdom we have been extraordinarily slow in our adaptation to new possibilities. My own field of molecular medicine is a good example. We have lagged behind the USA and Europe very considerably in this area and are not making the best use of the new technology which is offered us by molecular biology and cell biology. This is not just bad for medical research but it is also bad for our economy. The new flourishing biotechnology companies of the USA and Europe are very much reliant on input from our research institutions. Since we have lagged behind in this field, and this is a disgrace considering that we have led the way in molecular biology for so many years, these new and exciting industrial possibilities are not being exploited as well as they should be.

The reasons for this particular problem are very complex. Undoubtedly they reflect the state of funding for medical and basic research; our clinical academic departments are too small and lack the scientific expertise to take on these new technological advances. But part of the problem is that much of medical education in the United Kingdom is based on archaic principles and ossified institutional structures that are not capable of moving with the times. These problems go very deep and require a complete re-look at medical education and the relationship between clinical medicine and the basic sciences.

How are priorities in medical research influenced by the institutions through which research is funded?

By and large the balance between the government run research councils and the charitable organisations is good and offers different opportunities for developing priorities. It would be a tragedy if this balance was disturbed by further cuts in government funding for the research councils. It is essential that the Committee understands the fundamental differences in the type of research that can be carried out under the support of these two sources of funding. For example, it is possible for the MRC to set up a series of units that can investigate complex problems over a long time. On the other hand, the charitable organisations, which by and large are not able to set up long-term units of this type, have the flexibility to move in new directions very quickly and to fill in gaps in government funded research. The MRC has been particularly successful in defining difficult and intractable problems and in setting up appropriate units with the security of long-term support to tackle them. This has been a unique aspect of British science, and overall the feedback to the Health Service has been remarkably good. Of the charitable organisations only some of the richer cancer funding bodies have been able to do anything comparable. I believe that, for the future health of scientific research, it is absolutely essential that these different types of support continue.

Are the results of research adequately disseminated?

By and large yes. Our system of general and specialist journals works well and postgraduate medical education has developed enormously since the War. Most of us who are involved in any kind of decent research could be on the road disseminating information every day of the week if we had the time. There are far more postgraduate meetings than good speakers available to talk at them. The development of Regional Postgraduate Centres and Advisors has been a major success story. But, as mentioned below, I am not so happy about lines of communication to the DHSS.

Is there duplication of research effort?

This is a very difficult problem. By and large most of the research councils and charitable trusts take reasonable care to avoid serious duplication. On the other hand competition is a major stimulus to research and a certain amount of duplication is necessary. International competition is also necessary. Good scientists will look very carefully at what is going on round the world and try and organise their own research programmes such that they are not duplicating other work and are not doing things which they know can be done better elsewhere. For example, in my department in Oxford there is a considerable interest in the problems of tropical medicine and malaria. Together with our granting bodies we have discussed international effort in this field and have not gone into competition to produce a malaria vaccine with the big laboratories in the States and Australia. Rather we have tried to do what we think we can do better which is to study the basic physiology of the malaria parasite. Although I have regularly been in competition in my own particular field of genetics with other groups in the United Kingdom we have always tried to steer clear of major duplication and I think that this happens in any reasonably run research group. Currently, as Chairman of the Leukaemia Research Fund Scientific Panel, the Director of the Fund and I are looking very carefully at all the research that is going on in adult leukaemia in the United Kingdom and trying to rationalise our funding accordingly. I am sure that this kind of activity goes on in most granting bodies.

Is research reflected in improvements in patient care or health education?

There is no doubt that this is the case; I have listed a few examples in a short appendix.

Although some new developments get applied reasonably quickly there is often a serious delay between what has been worked out in a research laboratory and what happens in clinical practice. Let me cite two examples from work carried out in Oxford. The epidemiologists, led by Sir Richard Doll and more recently Mr. Richard Peto in my department, have had clear evidence on the deleterious effects of cigarette smoking for many years. We should ask ourselves therefore why we have been much slower than many developed western countries in using this information for the prevention of lung cancer and heart disease. A more recent example stems from the application of molecular biology to the identification of carriers for genetic disease and for the prevention of these diseases by prenatal diagnosis. It is already clear that there will be an enormous lag period between what we can to in the laboratory and when this technology is transferred into Regional diagnostic laboratories. Because of the way the NHS is organised there seems to be a genuine communication problem between the basic researcher and those that direct health policy.

What changes in the priorities of medical researchers are needed?

This is an enormous question. I shall cite two areas that seem to be important.

As already mentioned, the United Kingdom has been extremely slow to apply the remarkable new technology of molecular and cell biology to clinical medicine. The lack of success in this field reflects the inadequacies of many of our clinical academic departments. In the post-war years when medical research was based on simple patient observation they were adequate and performed reasonably well on the international scene. But the increasing scientific sophistication that is required to take advantage of the new developments in the basic sciences has shown the deficiencies of these departments. They are too small and their limited staff is heavily committed to patient care and teaching; they do not have the back-up of scientists or laboratory plant to allow them to move in these new directions. This problem has been compounded by the fact that these new developments in the basic sciences have arrived at the same time as many of the academic departments have suffered severely from cuts in funding. And, as mentioned earlier, our training programmes for academic clinicians have not helped. I enclose a recent paper by an American physician Dr Joe Goldstein who won the Nobel Prize for Medicine last year. The message is very simple. Medical researchers of the future require adequate training in the methods of research. They also require time for this training. It is very difficult for young people in this country to gain this type of training because of the rigid requirements of our Royal Colleges and other bodies that define career structure.

The main advantages for the Health Services of the application of molecular and cell biology to the study of human disease is the likelihood that in the long term these new methods will tell us something about the basic cause of some of the major diseases of western societies, such as heart disease, major psychiatric disease, and the degenerative disorders such as arthritis. Hopefully, this will enable us to treat these conditions more logically and to move away from the current expansion of high technology patch-up procedures that are being used increasingly to manage these intractable problems.

A second area of priority is in some of the more immediate problems of society, particularly the pathology and social management of our elderly population. There is no doubt that the DHSS looks to the universities for leadership in these very difficult areas. Yet although there are academic departments in these subjects they tend to be small and inadequately staffed. Although, as I said earlier, one cannot force research in a particular direction the setting up of adequate academic departments within the clinical schools to cover some of these Cinderella subjects seems to be a good way of encouraging research in this area. Other neglected subjects include psychogeriatrics, terminal care, rheumatology and sexually transmitted diseases.

Should any specific changes in organisation or funding be made?

Having worked in the USA, and having travelled widely in other countries, I still believe that the dual support system is absolutely first class and one of the great strengths of British academic medicine. The concept of the well-found laboratory being the responsibility of the DES and the DHSS, and further research funding being competitive via government financed research councils and the charitable trusts, is quite unique and if properly run offers the very best approach to the support of science for a country with limited resources.

Although both arms of the dual support system are suffering because of lack of government funding it is the well-found laboratory that is in most serious trouble. It is possible that this stems from lack of co-ordination between the DES and the DHSS. The well-found laboratory consists of the teaching hospital and the clinical academic research departments. This arm of the dual support system has suffered severely by cuts to the health services and to the universities. I suspect that the teaching hospitals and their associated university departments may be suffering because they are under the control of two separate government departments; it is not clear who is actually looking after the interests of academic medicine centrally.

The other half of the dual support system is the competitive funding that is handled for the DES by the Advisory Board to the Research Councils (ABRC). The latter is a good committee; although it was dominated by the Heads of government research departments in my time I gather that the independent members and heads of research councils now have a much better input. This should be the key committee in determining priorities and its better composition and organisation is one of the major improvements in the administration of British science. As I perceive things from the ground it is doing a much better job in sorting out its half of the dual support system than are the DES and DHSS.

I hope that the Committee will see the strength of the dual support system. There is a serious danger that we shall go the way of American science in that it will collapse and only those university departments and teaching hospitals that can create the well-found laboratory from private funding will survive. If this happens it will remove one of the great strengths of British scientific medicine.

Another important organisational problem is whether medical research is best carried out in a few large institutions or whether it should be spread over the university academic departments and teaching hospitals. While there may be a case for a few centres of excellence like Mill Hill and the proposed amalgamation between Northwick Park and the Hammersmith Hospital, it seems that, overall, the best use of limited resources will be made by concentrating the bulk of research on the combined strengths of the teaching hospitals, university academic departments and university basic science departments. There seem to be many advantages of not setting up independent research institutes. The university clinical departments are in the best position to direct the benefits of the basic sciences towards patient care. They have a strong input of both clinical and non-clinical graduates for training in scientific medical research. Overall they seem to offer the best environment for scientific advances to be applied directly to patient care.

Within the universities there may be scope for a change in the way in which science is organised. In designing the Institute for Molecular Medicine in Oxford we have tried what appears to be a rather novel idea. This is the "research hotel" concept. It provides a building for groups composed of clinical and non-clinical scientists to work together sharing common equipment and recreational facilities for the exchange of ideas. It recognises that much medical research of the future will be making use of the same techniques of molecular and cell biology to study a wide diversity of diseases. It removes the compartmentalisation of specialities and puts individuals from a wide variety of specialities under one roof using the same techniques for the application of basic science to clinical care. And above all it is a much cheaper way of running science; it means that every individual speciality department does not have to be equipped to the high level of sophistication required of modern science.

Summary and evidence not covered under the previous headings

1. British clinical academic departments are too small and too poorly supported to take advantage of recent advances in the basic sciences. They were adequate when medical research was limited to patient observation but their staffing and structure is totally inadequate to apply the more sophisticated methods of modern science to clinical research. These departments are attempting to carry out a large amount of patient care and teaching, and at the same time to run increasingly sophisticated research programmes.

Their whole composition is a matter for urgent discussion between the DES and the DHSS. They are inadequate in staff, space, and scientific input.

2. The dual support system has been one of the great strengths of British medical science. It should not be changed and both arms require strengthening. The concept of the well-found laboratory needs rethinking as outlined in (1). There is great value in maintaining a strong input from both government and the charitable organisations in the competitive arm of the dual support system. Assuming that research funding will always be limited there may be a case for the government funded organisations, that is the research councils, and the charitable organisations liaising more closely to define centres of excellence in particular areas of research and in strengthening their support. It is unlikely that this country can emulate the USA where most major teaching centres can achieve excellence right across the board in medical research.

3. Much more use should be made of contacts between industry and the universities; well done in the USA, bad here. This is, in part, the result of our failure in the medical biotechnology field.

4. There is a good case for maintaining the MRC Unit system to support particularly difficult areas of research that require long-term support.

5. The bodies that govern the training of doctors that is the GMC, the Royal Colleges, and the DHSS, should be asked to re-examine our current training programmes, both undergraduate and postgraduate, to decide whether they are compatible with the increased sophistication required of modern medical research. Why does it take so long to train specialists in the United Kingdom compared with the USA? They should consider whether the rigidity and length of training is not stiffling some of our most able young people. The universities should be asked whether, by better organisation, it is not possible to forge closer and more efficient links between the clinical and basic sciences.

6. The DHSS should develop a clearer policy for letting clinical scientists know the lines of communication whereby new advances can be fed into clinical practice.

7. There are certain areas of NHS-related research that are poorly represented in university academic departments. These include the management of an increasingly elderly population, terminal care, rheumatic diseases, psychogeriatrics, and others. Because many of these topics have been intractable, and it is only in the last few years that small university departments have been built up, they are poorly supported.

8. The most economical way to encourage medical research is mainly through the axis of the teaching hospitals, clinical academic departments and basic science departments. Universities should consider better ways of integrating research in this way. For example, the idea of research hotels as part of the well-found laboratory might be explored further. Very careful thought should be given to the advisability of setting up large independent research institutions which are separate from the teaching hospitals and universities.

9. British academic medicine is currently facing particularly serious problems and seems to have lost direction. There are many reasons. It has been hit hard by cuts in health service funding with deterioration in the quality of the teaching hospitals. It has also suffered from the cuts of university funding and in the availability of support from the research councils. The training of academic clinical staff is becoming increasingly rigid and beaurocratic; currently training programmes are being organised by far too many bodies including the GMC, different Royal Colleges for every speciality, the DHSS under the guise of several different committees including JPAC and Hayhoe, and the universities. In fact the training of medical students and postgraduates is reaching a stage of organisational chaos. This is having the effect of stiffling a great deal of our best talent.

I hope I am not painting too gloomy a picture of the current state of medical research in the universities. I have tried to emphasise what is good, in particular the principle of the dual support system and the interaction of the government and charitable organisations in the support of research. But I hope that I have left the Committee in no doubt about the organisational problems that exist. Although the thought of yet another committee is not attractive, it may be that a Commission should be set up to examine the future of academic medicine in this country. It is a great shame that we are facing this crisis at a time when the basic sciences are offering us the possibility of making the next 50 years the most exciting and productive for medical research; we must not miss this opportunity.

Appendix

SOME EXAMPLES OF RESEARCH CARRIED OUT OVER THE LAST FEW YEARS THAT HAS HAD MAJOR BENEFIT TO THE NHS

1. Epidemiological studies relating smoking to the cause of cancer, heart disease, and stroke.

2. The prevention of rhesus haemolytic disease of the newborn.

3. The application of recombinant DNA technology for the prenatal detection and carrier detection of genetic disease.

4. The Medical Research Council Trials which have greatly improved the treatment of childhood leukaemia.

5. The development of penicillins and the more recent generations of antibiotics.

6. The development of powerful drugs for healing ulcers of the stomach and duodenum.

7. The development of the artificial hip joint for sufferers of osteoarthritis of the hip.

8. The development of screening programmes for important cancers including breast and cervix.

9. The development of tissue typing leading to the possibility of organ transplantation, particularly kidney.

10. The development of new vaccines for the prevention of infective disease.

11. The development of powerful new diagnostic agents including computer assisted tomography.

Examination of witness

Professor Sir DAVID WEATHERALL, called in and examined.

Chairman

1. Sir David, may I extend to you a very warm welcome to our Committee this afternoon. If I may also say we very much admire your memorandum which you sent us, which I think is an excellent starting point. We all found it most interesting reading. So thank you very much and thank you for sparing the time in your very busy life to come along and join us. You know the terms of reference of our enquiry, I think and so we can go straight on to ask you questions, unless you would like to add something to your note before we start?

(Professor Sir David Weatherall) No, I do not think so, thank you.

2. Just to get things in order, I would like to be able to differentiate between those problems of priorities which are governed by shortage of funds and those influenced by other factors. Shortage of funds is a universal problem; everybody starts off on the basis of "we have not got enough money". We have to try and direct our attention rather more, I think, to other aspects of priorities, which is directed at making better use of the money we have got, and so on. How much of the problems which you are outlining in your paper, would you say, are caused by shortage of money, and how much is caused by defects in organisation which you feel could be improved?

A. I think I have to say, really, that the major problem is the shortage of funds on both sides. As regards organisation, I think compared, say, with North America, the problems go much deeper. The main problem is a lack of understanding of how medicine and medical research has changed since the war, and the dramatic kind of change that has taken place over the last ten years that has left our Departments, not just financially but organisationally unable to meet the opportunities of modern science in medicine. A second problem (and I think we may come to it later) goes much deeper, and that is the whole way in which the training of young doctors is organised in this country, right from medical school and so on, and maybe a lot of our attitudes are a little bit old-fashioned and ossified. It may be that we have got to totally rethink the way we train certain numbers of our doctors. I think there is an awful lot of manpower wasted. You only have to go on visiting professorships at places like Harvard and Yale in the last year and see the way in which they manage to look at their young men and decide that some of them, quite early on, have got particular research talent, and get their careers geared towards that early. But the whole thing is very haphazard here and everybody does the same thing. If they are lucky, the bright researcher may be able to beat the system. I think there are big organisational problems.

3. On that matter of training you speak pretty strongly, do you not? You say "In fact, the training

[Chairman *Contd*]

of medical students and postgraduates is reaching a stage of organisational chaos''.

A. Yes, right.

4. Would you like to expand on that?

A. Maybe it was a bit strong. I do not think it was, really; I think it is chaos! The problem is not at the undergraduate level so much, (although I think many of the things that perhaps some of the universities might like to do would be very difficult to get through the GMC); it is when these chaps qualify that the problems start, because there are so many people demanding their ''training pound of flesh'', if you like. We have got the GMC now demanding an extra year, we have got the Hayhoe Committee setting up another kind of pattern of training which is adding extra years of early clinical training. We have got the Royal Colleges—and a Royal College for every separate discipline—starting very rigid kinds of training programmes, so that a young man must do a long set period of training. There does not seem to be any—or very little—flexibility for the young highflier. When you add all this together and then you consider that because of the cutbacks in university staff most of our young people do not feel it is safe to opt, at the end of the day, for a career in academic medicine in university departments, it means they have all got to go through this kind of protracted training period in case there is no academic post for them and they have to return to the NHS. That, really, is what is putting them off and why we are losing some of our best research talent. That and the fact that they do not really see much for them at the end, with the cutbacks in university posts.

5. This rigidity which you refer to in the Royal Colleges; after all, the Royal Colleges are your own professional bodies, so presumably that rigidity is of your own making—or not, as the case may be.

A. Yes, I suppose that is a reasonable criticism. It just reflects the kind of attitude to academic medicine and research in this country. That is why I was saying it warrants dealing with nationally. It is attitude as much as a lack of funding.

Lord Flowers

6. I just wanted to take this a little bit further. Sir David, you made comparisons with the United States, which is very natural. Am I right that an intending doctor in the United States going to university would take a basic science degree for the first two or three years and then he would do his MD afterwards?

A. That has been the tendency for the last few years. He would certainly spend two or three years doing a college degree. Until recently there has been a lot of flexibility; there has been a tendency to make them do science in college, but now it is clear that a lot of American deans are trying to change again because they feel that they would like their people to go for a much more liberal kind of education. I think you are right that in the last few years there has been a tendency for chaps to go for a college degree which is largely science, yes.

7. They must be, the implications are, better prepared. Maybe they think about doing research later on, or they have it in their minds all the way through.

A. Possibly; yes, I think so. But I think the big difference one sees at a place like Harvard or Yale and the best American schools is the enormous flexibility once kids get into clinical school. The Harvard Medical course is 4 years, though one could argue it should be shorter than ours because they are slightly better prepared than our students, but of that 4 years at least one whole year is elective. Also, a good number of clinical courses are elective. In other words, I think what they are saying is ''We are not going to try to train a complete doctor in Havard Medical School, we are going to try to create a chap with a reasonable kind of basic training and a state of mind with a lot of flexibility''.

8. You also talk about ''ossified institutional structures''. I may know what you mean.

A. I think I will get into trouble over this—in fact, I know I will—so I might as well come clean. I do believe that we have not, since the War, really sat back and looked at what we are trying to do in training doctors. I think the GMC and the Colleges, in a sense, have really stuck to the old pattern and added more on without trying to reduce anything.

9. Are you talking about the organisational arrangements of the institutions or are you talking about the syllabus?

A. Largely the syllabus, and the fact that there are too many institutions having an input into how a doctor is trained, as I said earlier.

Chairman

10. Who would alter that? Is that not in your own hands?

A. Yes, it is largely in our own hands. It is certainly in our own hands from the point of view of the Royal Colleges and I suppose to some degree from the General Medical Council.

Chairman] If the Royal Colleges said ''Let's all give it a jolly good shake-up'' today, there is nothing stopping them, is there? Who would stand in their way?

Baroness Lockwood

11. Could I just get clarification of what Sir David has just said please. Are you recommending a sort of earlier divergence between doctors who are going into the research field and doctors who are being trained as doctors for general practice, because, if you are suggesting that too much has been piled on, one of the criticisms of doctors is that there are all sorts of things they do not know about and, therefore, it is suggested by some that general practitioners do need a wide range of

[Baroness Lockwood *Contd*]

subjects. Are you suggesting an early diversification of career pattern?

A. Yes, I am suggesting that certainly in the clinical schools there ought to be much more free time and elective time so that the young man who has got that kind of talent can be exposed to research much earlier. For example, at Harvard the vast majority of students who want to be straight good honest doctors will use that elective time for clinical training, but it does give that kind of flexibility so that the outstanding talent can go into research. A very good example is the young man who has worked out the molecular basis of colour blindness in the States, he has done it all while a medical student. I do not think that could have happened in this country. I think it is probably because everthing is uniform, and the clinical schools have piled on so much of a curriculum. Perhaps I am being a little unfair to one or two of the schools; I know places like Southampton, and I think Nottingham, have tried to give a little bit more elective time, but compared with the best American schools it is really very little.

Lord Smith

12. I do not fully understand the views of Sir David about the Royal Colleges. Has Sir David been to visit the Conference of Presidents of the Royal Colleges of the United Kingdom? They meet quarterly. Can you expand on that?

A. I have never been to those meetings but I think it is an attitude, really. To be fair to the Royal Colleges, it was brought on somewhat by the young themselves some years ago when they said "We must have a more defined kind of training programme in this country." What happened was that it went too far, so that in their training programmes they have really laid down a very rigid kind of code of training which is very difficult for the bright young man to get round and also to move through more quickly. This said, it takes much longer to train a specialist in a variety of specialities in the United Kingdom than it does in North America. I do not believe that our graduates are any less able, I just think maybe we should relook at how long it does take to train a specialist.

Lord Flowers

13. Is that because they are less well prepared in basic science?

A. I do not think so. I think we have made a number of assumptions over the years: a chap has to do X number of years in a speciality before he is considered competent; regardless of his ability. I do not think it is based on any evidence really.

Lord Hunter of Newington

14. Do you think there should be a career structure in research in the Health Service?

A. That is a very interesting question. It would be very difficult to see how one would work out a career structure in that framework. You mean something like a kind of full-time research community physician, that type of post?

15. It happens to some extent in the laboratory departments, does it not, within the Health Service? They can very easily do a substantial amount of research in microbiology.

A. Surely, yes. I think particularly in the teaching centres there is no question that it is a very grey area between university and NHS laboratory staff. What I think we need is more research posts in both.

16. Do you think they should be at the universities, or does this hiatus of recent months give them the opportunity to change it?

A. I do not think it matters. I think in the best teaching centres in this country the division between the university and the NHS is a very grey area.

17. Yes, but what about the funding, because the equipment and things of that kind are becoming more and more expensive.

A. The funding has to come from somewhere. It does not matter to me whether it is the university or the NHS, or which department it comes from. We have to create more research posts.

18. But does the present structure not give the Department or the Health Service authorities the opportunity of opting out of something which in fact is not immediately of practical relevance but is only one stage removed from practical relevance because of the present system?

A. I am not quite clear that I follow the trend of that question. Because of the way the DHSS is set up at the moment I do not think they have any mechanism for creating full-time research posts. I think that would be an excellent line to follow. But it would be equally good to provide some decent career posts in full-time research in the university departments.

Chairman

19. I get the impression from some of the evidence we have had that a period in research can, in fact, be detrimental to the student's career rather than enhancing it, is that right?

A. Gosh, I would need to see the evidence. I cannot imagine it being detrimental. Generally speaking, the only people who do not do any research in this country now—and again I am not sure even if this is a good thing—are chaps who have made up their minds early that they are going into general practice. By and large the average hospital doctor—or most of them—will get exposed to some kind of research and I think they must benefit from it. It gives them a time to think critically about evidence and develop ways of thinking which are invaluable. I would love to know why and how a period in research harms a doctor.

Lord Perry of Walton

20. Taking the argument about elective periods in clinical training, taking that back a stage further, do you think there is any case at all for having two separate streams of undergraduate education leading to primary care physicians on the one hand and specialists on the other?

A. I think we should move in that direction, but not in two rigid streams. What I would like to see is at least some clinical schools attempting the experiment of having much more elective periods, the development of an MD-PhD programme rather those in a number of American centres. We are going to see if we can do that in Oxford; to give some outstanding youngsters an opportunity to do a decent length period of research early on in their careers. I think in that way you would pick up talent early which is what we are missing in a kind of system where everybody is treated exactly the same.

Lord Flowers

21. Is the intercalated year a good thing?

A. Yes, excellent.

22. Have you any comment about the fact that the MRC no longer provide BSc scholarships to the extent that they did?

A. I think the word "disaster" is always a bit strong, but it is a very bad move. People have attempted to measure the success of that programme. The CIBA Foundation did a very nice study recently to look at what happened to chaps who had done intercalated years compared with those that had not, and by and large I think they had very good evidence that it had encouraged more of those people who had done it into academic or research careers. You can argue that they may have been the people that would have been motivated anyway, but I think such evidence as there is suggested it is a very good time to introduce people to research.

Lord Rea

23. I just want to break in at this point to ask Sir David if he feels there should not be encouragement for people who are in primary care becoming research-minded and research-orientated rather than regard them as a different kind of animal? I think in your paper, actually, you mention some of the aspects which are not being pushed sufficiently in medical research at the moment. Some of these do very much relate to community studies. At the moment there are far too few General Practitioners who are research-orientated. I think to regard them as a different kind of animal and separate them off at a very early stage would be a mistake.

A. I entirely agree. I suggest we should expose our students to more opportunities for research, not necessarily meaning they should all become molecular biologists; I would be more than happy to see some of them doing work in the social science departments or community medicine and so on early on, which is virtually never done. I doubt whether anybody has done an intercalated year in a subject like that.

Lord Hunter of Newington

24. If a situation arises where you think there is a possible break-through in clinical application (which may well be the situation at the moment) how do you advise the health authority about this? Is it done on a person-to-person basis, or is there a machinery where there is a steady input of research ideas into the health authority?

A. I think if I had a real break-through I would get on the 'phone to the Chief Medical Officer, but I am sure that is not what you mean; you are talking about, as things develop, how would I, as a member of a research group, get this information to the Department of Health. It is done very much on an *ad hoc* basis. For example, if I think I have got something (as we have at the moment) which would be useful, the first thing I would do is probably do it through our Regional Research Committee and then develop a working party. That is exactly what we have done for the new genetic technology which has been developed.

Chairman

25. You do refer in your paper to problems of communication in a number of areas. For instance, in one area where you refer to the problems of basic research and of communicating with those who are directing the Health Service policy.

A. I was just coming to this. I think this is a problem. Beyond the regional level it is jolly difficult for a Head of Department to know who actually deals with a particular field in the DHSS. In fact, knowing I was coming here today, I have just come from a meeting at the Royal Society of Genetics and I asked a number of my colleagues who run the genetics services in the DHSS who actually looks after genetics at the DHSS at the moment, and none of them knew. I think this is awful. It seems to me the MRC and the big charitable organisations do a jolly good job with this kind of thing because every year you get a handbook from the MRC indicating exactly who is in charge of what. I have not the faintest idea, actually, who looks after what at the DHSS; it changes all the time. I think it may be because it is a mobile population.

26. You also refer, I think, to the problems of communication between the DES and the DHSS as well.

A. It seemed to me that some of the problems of the teaching hospitals at the moment probably stem from the fact that we are falling between two Departments. I would not ask for the old Board of Governors to come back, but from my experience of local health authorities it is not easy for the teaching hospitals to fight when money is so short—for the things that are important for teaching. If I serve on the Oxford Health Authority (as I have done) it is almost impossible for me to argue the case for medical students against local

[Chairman *Contd*]

chiropody services. When you start talking about research facilities, how can I argue the case to a group of chaps locally when we have got no services for the mentally handicapped? How am I going to make a case for research beds? It is very, very difficult. That is what I mean. I think we fall between two stools, and I am not sure who is looking after us centrally.

Lord Hunter of Newington

27. Does the UGC medical sub-committee help you on these matters?

A. I hope so.

28. Have they in the past?

A. I am sure they have, but I am not absolutely clear of the relationships to the DHSS. I just perceive from the coal face, as it were, that there is nobody who has really got the requirements of the teaching hospitals as a top priority.

Lord Flowers

29. Sir David, if there were extra money for medical research, would you rather it came from the Health Service or through the DES (the UGC and the Research Councils)?

A. I think, really, through the Research Councils of the DES, because of my experience when I sat on the MRC Board at the Rothschild time when 20 per cent went across. The problem is I do not think the DHSS have got the kind of back-up—either staff or expertise—to deal with very large amounts of research money. By and large I think the relationships with the MRC and the DHSS have been very good. There is very good representation at Board level; if the DHSS wants something unpopular doing the MRC will respond. I know the argument is that if money is short it will always be unpopular topics that will suffer, and an important thing like incontinence or something like that will be wiped aside at the MRC, but I am not so sure. The MRC have got excellent ways of responding; they can produce an expert working party very quickly on a topic for the DHSS. They can and do encourage work in unpopular topics; and I do not think that is the job of the DHSS. Organising research and funding is a full-time occupation.

30. If extra money came from the NHS it might go into local chiropody services instead of research?

A. Yes, I hope I have not put it too crudely; I tried to put the problem in perspective. It is a very difficult problem. How do we argue the case to a local health authority for research against that for local services. It is an argument that is very difficult for the chaps who make up the local health authorities to understand.

Baroness Lockwood

31. Does this mean the "knock for knock" system is now operating against the interests of the researchers and the medical schools?

A. Yes, to some degree. You might argue that is my fault for not being able to make my case during my time on the health authority but when you actually have to make the case in a situation where money is so tight you are always going to have to give way to basic service needs rather than research needs. I think that is our biggest problem in the teaching hospitals.

Chairman

32. You refer in your paper to the strain which exists under the dual support system in the well-found laboratories under the DES and the DHSS support. Why is that?

A. Well, I have taken the definition of the well-found laboratory pretty broadly. What I meant by the well-found laboratory was not just laboratory space that is supported by the DES but also the hospital and the clinical research facilities. I do not think you can dissociate the two. What has happened on the hospital side is that, because of the difficulties in the NHS, it is virtually impossible now, in many places anyway, to admit patients for research purposes and to keep patients in hospital long enough to make detailed observations other than basic ones, so that end of the well-found laboratory has certainly suffered. Of course, with the university cuts the university end has suffered very much, so it has been hit from both ends. And I think the most serious thing of all is that, with the cutting of university clinical staff, and because we have heavy clinical commitments to maintain any kind of patient and teaching services, with reduced staff the key people in these departments whom you are trying to train, the academics of the future, lecturers and so on, are able to have less and less time for research. So I take that very broad view of what I think is the well-found laboratory—the NHS and university basis upon which one does clinical research.

33. Do you feel that officials understand this?

A. No.

Lord Hunter of Newington

34. What relationships do you have with industry, particularly the microbiology industry?

A. This is new. As you know, the biotechnology industry has really only taken off in the last few years in this country. Do you mean me personally?

35. Yes.

A. I think this is very important. I sit on the Science Council at Celltech, the MRC's original joint development, and I am also becoming quite tied up now with the new ICI development locally. There is enormous opportunity for interaction between the science departments and clinical research departments and these new companies. I think it is taking off very well, except that, as I said in the report, there are so few clinical departments doing any kind of molecular work in this country that the input into industry is a bit limited at the moment.

[Lord Hunter of Newington *Contd*]

36. Are they prepared to fund?

A. I think so. I could let you know in a week or two. I am trying hard with ICI, I think they will actually,—not enormous sums but extremely helpful amounts.

Lord Rea

37. Will that money be tied to particular projects?

A. Yes.

38. With foreseeable, if you like, in your terminology "pay-off" research?

A. I think so. It is probably best to give you a concrete example. We have developed a particular analytical method for identifying inherited kidney disease very early in fetal life. We can give that information to the clients who want to develop it on a commercial basis; in return for that they have helped us in the next step of the development because they have many more facilities than we have; they can actually help us along with the kinds of very complicated chemical work they are better set up to do than we are. I think there are enormous possibilities.

Baroness Lockwood

39. On page 5 you make a reference to the applications of molecular and cell biology which you have been involved in. Then at the end of the paragraph you say that it might be a way of moving away from current expansion of high technology patch-up procedures. Are you suggesting that too much effort has been placed on this kind of medicine—high technology replacement—or that it has been at the expense of some of the small basic research?

A. No, not at the expense. I think this is a very important question. What happened after the war when people got on top of infective disease and so on was that one was left with intractable problems like heart disease, psychiatric disease, kidney disease and so on. There was a great period of British research, a kind of whole patient type of research. What that taught us to do was to control heart disease and kidney disease symptomatically in more and more sophisticated ways, to the extent of organ replacement. But right through that period, except for the epidemiologists who told us of some of the kinds of risk factors in the community that might go towards those illnesses, we learned nothing about what actually caused them. We have no idea what causes the blood vessel damage in coronary artery disease. I think what has happened in the last year or two is that, with new techniques, with cell and molecular biology, one can start to see a glimmering of a way into that problem. It is still an act of faith to say if I knew precisely what was going on in these blood vessels I could control it, but it seems to me we should at least have a go because everything at the moment is really treatment after the event, if you like, except the epidemological approach. But the epidemiologist's story cannot be the whole story. We are not going to alter the lifestyles of Western society entirely and there are lots of us who have the bad habits of Western society who do not succumb to them. I think people get confused about why one wants to look at the genes. Heart disease is not directly genetic, but there are a number of genes involved; if one knew what they were doing, what their products were, then one might know what precisely is happening at the vessel wall. That is the opportunity I think we now have.

Chairman

40. One thing in your memorandum puzzles me a little bit, that is, you show a strong preference for keeping research in university academic departments, and I can see the argument for that. Later on you also draw attention to the advantages of what you call a research hotel, which seems to me the other way round. Perhaps I misunderstood.

A. Yes, I think so, with respect. Can I tell you about the research hotel because everybody attacks me about this. We are building what we call an institute for molecular medicine in Oxford—a rather grand title—based on the research hotel principle. And the reason is this: if one argues that it is important now that individual departments develop more sophisticated methods of cell molecular biology to tackle disease, then certainly in this country it is very unlikely that we will ever be able to afford to have all the equipment and expertise in a cardiac department, a chest department, and a kidney department, and so on. So let us develop a hotel in which people from various clinical departments and groups can go into an environment where the more complex and expensive bits of equipment to do that type of work are shared, and, even more importantly, where we can create an environment for non-clinical scientists to work together on these problems so that they will not be isolated in clinical departments. So you produce a critical mass of good non-clinical science, but each of the groups in the hotel will be attached to clinical departments. In other words, it seems to be an economic way of getting basic research into clinical schools and also a way of getting the good mass of non-clinical scientists working under one roof and not in isolation. That is the concept of a hotel, it is not a separate research institute—this is very important. Each of the groups in there has come from a clinical department.

41. A hotel within the rest of the complex?

A. Right.

Lord Flowers

42. Sir David has produced a new word in this context, "hotel", but the idea surely is an old one, or is there something more to it? For a long time now chemistry departments have needed facilities they could not each of them afford, and so through the SERC—not the MRC—expensive NMR and spectroscopy equipments and so on have been put into a number of chemistry departments on the condition that they were made open to other

[Lord Flowers *Contd*]

people: similarly with physics equipment, similarly with some engineering equipment. It is the same idea. The only thing that the word "hotel" signifies to me is that you have a hotel manager and a very small staff and almost everybody else is a visitor. I doubt whether it would work on that basis.

A. It depends on how long you stay in the hotel for. The idea of this has been that we would not have a large block grant that ran this place but we would have a small central facility, but the people who go in there are going in on their own funding and they will stay there while they can fund themselves; if they cannot they will go back to their own departments. That is the only reason it is called a "hotel". We are not setting up an institute which will have a 30 or 50 year lifetime with the same people in it.

43. In my experience the equipment is only part of the problem; it is the skill and the experienced staff that come with the equipment that make such an arrangement work. I suggest your word "hotel" is very misleading, if I may say so. You probably will find it is not very effective unless you have a fair number of people who are permanent there.

A. We will have permanent "core" of staff there.

Chairman

44. What about the hotel staff?

A. We will have permanent people running the essential services.

Baroness Lockwood

45. Where would it be based? Within a university and used by the other medical schools within a regional or geographical area?

A. This particular one will be based actually in a clinical school attached to a teaching hospital.

46. Yes, but to take, for example, Leeds, where I come from; there is a medical school there and presumably you are thinking it would be attached to the medical school but would it be for Leeds only or would you involve Sheffield where there is a medical school?

A. I really do not know. It depends on the size of it. I mean, our set-up is really quite small; it will probably have about six or seven research groups.

47. It just caters for the one medical school?

A. I would think administratively it would probably be difficult to service more than one school. One can imagine, if one had sufficient medical schools close together, yes, it could be a central facility like that. In London that might work very well; there are a lot of places close together.

48. How does this relate to the clinical centres?

A. You mean Northwick Park?

49. Yes.

A. I do not know what they are planning to do. Presumably if they are amalgamated with the Hammersmith on one site (which might be a very good thing) but how they will set up their science I have no idea.

50. This is an odd form of structure. It would not have any comparison between what you are talking about?

A. It would, if they are going to set up a decent basic science in this new development they have got to have some way of doing it. They have got to have an attractive environment for non-clinical scientists. It may be some arrangement along that line is the right way to do it.

Lord Hunter of Newington

51. Is it as important to send people to selected areas to learn techniques (particularly clinical people going to the laboratory) for six months in a year and then take them back? Is that as important?

A. Yes, I think it is important. It is what we have been talking about, because I think one of the major reasons we wanted to develop this molecular medicine institute was to provide an environment for training people. It is not always easy for a clinician to get trained in science in a basic science department. Sometimes it works, but sometimes they have a tough time. I think training in a set-up where the major objectives are clinical science, even if very basic, is often a more attractive environment in which to train.

52. Would you think this is important to the Health Service, because if they are going to be developing new molecular biology techniques—say in the main laboratories in the country—then sending young people for a year (whatever it is) to these centres would be a contribution to research at a stage when it is becoming a special investigation or a standard investigation.

A. I entirely agree with that. We have set up one lab in this new building which is for that purpose, that is training clinical technical staff.

Chairman

53. This is the laboratory you are building in Oxford?

A. Yes, it is extremely difficult for young people—say in regional genetic laboratories—to get adequate training in these techniques. There are very few places for them to go. One gets inundated with requests for training and one does need this facility.

54. So this is at the stage when the Health Service is becoming interesting in funding?

A. Yes, that is right.

55. Who is funding that?

A. You mean the training facility? It has just fallen on to the general funding of the building. But I am actually running a training lab from my own MRC unit.

Lord Kearton

56. I should say it will be obvious from my question I am a layman on this Committee. I thought your account was fascinating but is seemed mixed. You say certain things are splendid; yet the funding of research should be better. We have in the same documentation submissions from another six professors, very distinguished, all over the country who are all plugging their own speciality. They are saying if everything was better financed everything would be all right. "I have not got the money, I have not got the students"—it is the same story. But one of the letters we had said that (talking about clinical research) "This kind of research was probably uppermost in the mind of Lord Rosenheim when he commented in 1968 that a moratorium on clinical research for 20 years and a redirection of effort towards applying what was already known would result in widespread improvement in health". That was 20 years ago! Has it any validity today? It has been quoted.

A. Yes, that is a typical Max Rosenheim statement! You mean should we stop everything and just think for a while?

57. Yes. Stop most things; everything except yours.

A. That is a very interesting question. We cannot stop everything, essentially. If we did stop everything I think all you will find is that the Health Service will not get any cheaper.

58. I do not think that is the point, really. What we are concerned with is effectiveness. You could say the end aimed for is that people may have more fulfilled and more healthy lives. I am very struck by your paragraph 7. I should also say that most of the rest of the letters we have had show that the research done is curiosity-orientated. In other words, people do not say "There is a lot of human suffering in this particular area", they say "This is a jolly good problem I think I have got to try and proceed with it'. It is curiosity-orientated. Your paragraph 7 goes on about "... certain areas of NHS-related research that are poorly represented in university academic departments. These include the management of an increasingly elderly population, terminal care, rheumatic diseases" (which cause immense unhappiness) "psychogeriatrics and others. Because many of these topics have been intractable, and it is only in the last few years that small university departments have been built up, they are poorly supported". So is the emphasis wrong; ought we to be placing much more emphasis on these very difficult intractable problems which affect millions and millions of people instead of, for instance, spending enormous sums of money on saving a few hundred prematurely born children and so on?

A. I hope that you do not feel that I was just pushing the molecular side for the sake of a few unborn children. I believe that molecular medicine is very important because I think it is probably the first time we have had a way into understanding intractable diseases. But equally, I see that, as a clinician, the major problem in my clinical life is what to do with the elderly patient. When I got to Oxford it was quite clear to me that the health authorities had no clear thoughts about this and looked for a bit of academic leadership. There are departments of geriatric medicine, but I think they are usually the cinderella departments, extremely small and poorly staffed. I do not think that that type of research is terribly expensive research and I think for the expenditure of a relatively small amount of money on strengthening those departments one could do an awful lot.

59. It strikes me as being tedious research with no possibility of a breakthrough.

A. That is the problem, and that is why I talked about it. It has been neglected; we should make a start, but the departments are usually just a man and a boy. And it is tedious research, and a lot of the population research on the elderly does need adequate staffing, it is manpower intensive.

60. You gave the example of the importance to your health authority of chiropodists. Living in a country village, I can tell you chiropody is one of the most appreciated services for old people.

A. I was not doing down chiropody services. I said I could not argue a case for basic research when the chiropody service was not working.

Chairman

61. What would you say we need to do to make the careers more attractive in research for our young men?

A. It is very clear. I think we somehow, as a university community, have to enlarge the departments to the extent that we can have a number of full-time research staff, tenured staff, in our clinical departments. At the moment, if you take a young man in his early thirties who is an outstanding researcher (I am not talking about large numbers of people now but about the key people in this business) and he says "I want to spend the rest of my life doing research", what can you offer him? You can virtually offer him nothing in a standard university clinical department because there are not the staff. The few staff you have do clinical duties, you have a lot of teaching to do, and it is very difficult to employ a man to do full-time research simply because you have not got the posts. The departments are much too small. I think there is a total misconception of what is required of an academic department in the 1980s because research has become much more sophisticated and so on. So if we are going to encourage people there has to be something at the end. The only thing at the end now is the outside chance of, say, getting an external staff funded post in an MRC unit—they are contracting so the young do not receive much outlet there—or in one of the charitable organisations' units. The only charitable organisations that are big enough to have units and take on tenure staff are big cancer organisations. So, apart from industry,

[Chairman *Contd*]

these chaps have no career. I think that is the most serious problem we have. That is where money does come in. The departments were fine in the post-war period when medical clinical research was really just an extension of what you did at the bedside every day. Now it has become more sophisticated it has really shown up our deficiencies and departments are too small. There are not the staff opportunities—I am not talking about vast numbers of people either, but we have some extremely talented people and I think, because they do not foresee any chance of a career structure for full-time research, then they get caught up in all kinds of clinical training and do not have time to fulfil themselves.

62. Where should the initiative come from to do that?

A. That is a very, very difficult question. The simplistic answer is, oh, just put more money into the universities, they will do it. I hope they will. I think there is a gradual realisation of our deficiencies. But I asked a very outstanding clinical researcher in this country who has just been appointed to a chair in one of the London teaching hospitals what his staff were going to be, and he has no staff; he has one Wellcome Trust senior lecturer. It seems to me if the universities can appoint a clinical professor with that kind of level of staffing, we have to educate those who run our universities. It is not just a question of money, but money is the major problem.

63. That would be money through where?

A. That really would be——

64. UGC or which way would the money come?

A. It is back to what you mean by the well found laboratory. I think it is important for a university department to act as a proper research department because they are right in the middle between the Health Service and basic science departments. They are the places that can make the link, and I do not mean in hard science but in the kind of things we were talking about earlier. They hold the key positions. The size of these departments is the basic issue; they are too small. While they are small we will never have career prospects for full-time researchers.

65. What about some knock-for-knock of paying your researchers? Is that a satisfactory system?

A. Knock for knock in the sense——?

66. The DHSS, as I understand, get the benefit of the research worker's time and the research worker gets the benefit of the Health Service expenditure in the ward.

A. It is more or less that, yes. It has worked extremely well over the years but again I think it is not good enough now. Fine, if I have a young man who wants to do a certain amount of clinical work and a certain amount of Health Service work. But we have to have in this country a few people who do primarily research as a career and, if they do that, they cannot do lots of out-patients and have lots of clinical commitments. So in that sense the knock for knock is insufficient.

Lord Perry of Walton

67. Do you think there would be a case for a radical reorganisation such that a block sum of money was allocated by the DHSS or the NHS to the universities to run university hospitals so that there was no longer a knock for knock, but a single head in charge of a single department and responsible for the teaching hospitals?

A. That is a jolly difficult question. It would, in a sense, be a return to being not too far from the old boards of governors.

68. But in the boards of governors they used to squabble about who was going to pay for a plug in a sink, whether it was going to come from the DHSS or the DES.

A. I suppose that might be the ideal solution, depending on how it was organised centrally. A central body, say, an amalgam between the DES and the DHSS, has to start to look at teaching hospitals seriously and take the teaching research interest properly because they are just getting forgotten.

Baroness Lockwood

69. You make a reference in your paper to the whole composition of the clinical academic departments being a matter for urgent discussion between the DES and DHSS. This is just your view, there are no prospects of such a dialogue or discussion starting?

A. I do not know. The departments are woefully inadequate for research in the 1980s. I suppose you could argue that is the major responsibility of the DES, but I think it is really for both Departments. You cannot have research patients in the hospital any more. If you have got a mean patient turnover, as we have at the moment, of about 5 days for all your medical patients, the chance to have any of them in hospital long enough to think about them or do any kind of serious investigative work is nil.

70. As Lord Kearton said, in some of the evidence we have had in the other papers similar criticisms are made. The Council of Leeds University Hospital Committee is a major problem, because of funding. So this is a widely recognised problem. One would think, as it is widely recognised, that surely the DHSS should be aware of it (and the DES) and at least begin to talk about it.

A. I hope so.

Lord Kearton

71. I get the feeling there may be too many medical schools and too many researchers. Certainly a degree of concentration could be a jolly good thing. Followed up with that there should be some way of disseminating results by sending

[Lord Kearton *Contd*]

general practitioners or people from hospitals on refresher courses to the centres of excellence.

A. I hope I did talk about dissemination of information. I think that it is good, actually.

72. I agree it is reported in Professional journals, but from personal knowledge the number of doctors who really read these papers and the journals they get every week is pretty minimal.

A. It is always difficult if a chap does not want to, but if a GP now wants to keep up-to-date there are enormous possibilities. The Regional Postgraduate Centres have been tremendously successful, as have the Regional Postgraduate Advisors. GPs could be spending half their lives being up-dated.

73. It has been said of information technology (which is another thing we have been considering) everyone has to be retrained every three to five years. From your own statements about advances in clinical medicine one would think retraining every few years would be necessary.

A. I think it is rather that retraining should be a continuous process, which is what it is. We are investigating new technology for disseminating and up-dating information. One of the ideas which is very popular is to disseminate and up-date information like, for example, all major medical textbooks in a computerised way with visual display in a GP's office—and that kind of continuous up-dating. IBM and the Oxford University Press are deeply involved in a programme like this. People are thinking very hard about information dissemination. I think that is probably the least of my worries.

Chairman

74. Could I ask a different question? There is, or seems to be, a well-established mechanism for assessing new drugs and their effectiveness and their functions and so on. Is there a similar mechanism for assessing the effectiveness of new clinical treatment, or should there be?

A. There certainly should be. I think this is a bit *ad hoc* really. There are quite a lot of studies done in a variety of university departments on the value of new technology, but it depends a bit on the interests of the department. I do not think there is anybody who has a serious look at this as a distinct discipline. One would like to know, for example, the value of the great deal of modern cardiological practice. By and large the trials on new technology get done. What is much more difficult is when one talks about efficiency; what is efficiency? If it is based on death and the standard mortalities, that seems to be rather a miserable end point to judge the DHSS. In Oxford we are considered highly efficient because our turnover of patients is five days, but is that a good way of treating patients? These are the kind of things that one would like to measure, but they are very difficult to measure. The whole area of assessment of the quality and value of clinical methods, is poor; it is not a tight discipline; there is no one department or university department that takes on this kind of thing.

75. What is at the back of my mind is you talk about efficiency in the NHS, but we are, of course, concerned with the efficiency of the research which means its ultimate effectiveness within the NHS. How do you assess which researcher's work is worth doing and which is not, and when it has been done do we get the maximum effect in the NHS out of that particular investment?

A. That is extremely difficult, I think. When it gets to the stage of being applied then you can start to ask the question "Is it worthwhile?". Research, by and large, is a pretty insufficient kind of pastime. I think to measure the value of research before you start is almost a contradiction in terms—it assumes you have some idea of the outcome before you start it!

76. I quite see that and accept the fact that you do not really know where you are going to finish up. What I am thinking of is when you have done the basic research and got the equipment and the drug, how effectively is that then applied within the NHS? Is there any research work done, in fact, on just that?

A. I do not think so. If the results of research show very clear benefit it will be applied. Information is disseminated very quickly.

77. You speak very well of the dissemination of information.

A. I think what happens after that is more difficult. A good example at the moment is in our own field, where techniques for identifying genetic diseased in fetal life have been developed. They have now been set up in Regional Centres; Professor Holland's Department is now assessing the value of that programme for the Health Service, and part of that assessment will be cost value and part of it will be the psychological value to the families who are at risk of having children with genetic diseases. I think that is excellent and that does happen, but it does not happen all the time.

78. You would say that the information will spread very rapidly and any successful method of treatment would be very quickly applied by people who would see the benefits of it?

A. I think so.

79. That itself would then become a demand for extra money and extra facilities?

A. Yes. But one of the problems—if one takes the present massive proliferation of heart surgery for coronary artery disease for example—is that a lot of new developments are of somewhat marginal benefit. Therefore it takes an enormous amount of time in clinical trials before it is possible to assess their real value. There is less of a problem with present advances in genetics, they are of value, but a lot of medical advances are of marginal benefit.

Lord Perry of Walton

80. Does there not tend to be three stages? Initially the application is usually very rapid and very quick; then there is a period of re-assessment when the side-effects come up (so it tends to go down a bit) and then it goes up again to reach a sort of steady level. It certainly does with drugs and I imagine it does the same with other treatments.

A. Yes, that it right.

Lord Kearton

81. Clearly it comes to what you said earlier about getting into the behavioural psychology on the part of the specialists.

A. Yes, that is why in any assessment on the programme method impact on the Health Service you have not just got to assess the cost benefit to the Health Service you have got to assess the effect on the patient and the family.

Lord Flowers

82. I had not thought of it in these terms before, but usually when one is talking about research one talks about it in the context of "R&D" in the manufacturing industry or something. There is this all-important development phase, when you know more or less what the research results are and you know what application you would like to have, but you have got to go from here to there, and it is this development phase which costs a hell of a lot of money and effort and so on.

A. Yes.

Lord Flowers] If you are talking about clinical research I suppose there is not a development phase in that sense, is there? You will get a new clinical technique, try it out on patients obviously, but before everybody starts doing it.

Chairman] Is that not a clinical phase?

Lord Flowers

83. Do you not go straight from research into production, so to speak?

A. Yes, I guess you do. But usually you go through clinical trials.

84. —cautiously.

A. Yes, cautiously. Then very often you have to go through an enormously long phase of reassessment, particularly as most of the things we do, sadly, are going to be of marginal benefit.

85. It is really rather different?

A. Yes, it is.

Lord Flowers] A different process. It just occurs to me, Lord Chairman—I am sorry to get these random thoughts—that when one makes a comparison between, for example, expenditure in the medical field and expenditure in, let us say, manufacturing industry, it is perhaps important to remember this very costly phase in manufacturing industry which we call development is not really there in medicine.

Lord Perry of Walton

86. If you take cardiac surgery, the initial ideas might be laboratory based, the development phase would occur in animals before you started applying it to man.

A. I think the problem is that we cannot generalise about medical research. I entirely agree on the more clinical interventionist type of research; you are absolutely right. If one takes the other end of the spectrum, very basic molecular research, we are now, for example, attempting to find some of the genes involved with major psychiatric illness which is the first real possibility of breaking into psychiatry in that way, and then there will be an enormous development period. So it is such a spectrum that you cannot generalise about medical research at all. It goes from sticking needles into people—trials of acupuncture we are doing at the moment—to long periods of basic science.

Chairman

87. How good are your links with industry?

A. As I said earlier, I think by and large the links with the drug industry have been really quite strong over the years. I do not think there has been a problem. It is only in the last year or two that there has been any link with the biotechnology industry at all, because that is new for this country and the kind of medical aspects of biotechnology are a completely new kind of field, but the signs are that it is going to be quite good.

Lord Rea

88. Do you see that there will be quite a possibility of major increase in industrial funding of basic medical research in this country?

A. I hope so. Well, just based on the American experience anyway, there has been an enormously valuable feedback from some of the biotechnology companies into the universities. Certainly that has been the case in Harvard and I would hope it happens here on a smaller scale. But we have a tiny biotechnology industry.

89. That is one aspect of medical research where industrial applications or input might be particularly relevant?

A. Yes.

Chairman] Sir David, you have been very patient with us and answered our questions but time is moving on and I think we ought to draw this session to a close unless there are any other questions.

Lord Kearton

90. Just a statistical one. The evidence is that there is a shortage of research workers. How do the numbers of research workers in post today compare with the numbers five years ago?

[Lord Kearton *Contd*]

A. I cannot give you the exact data though I think reasonable figures are set out in the submission from the clinical professors, but let us suppose that they are the same—they are certainly not more—then we are in deep trouble because, as I said earlier, there has been an enormous change in scientific possibilities. In fact, because of the cuts, my own faculty lost 11 per cent in 1982 and is losing another 7 per cent over the next two or three years, so the answer is there must be fewer, and yet the opportunities are much greater.

91. The absolute level is what, 3,000, 4,000, 5,000?
A. Yes, in that range.

92. A very small specialised group really?
A. Yes, but important I hope.

Chairman

93. I like the closing sentence in your paper. You are optimistic about the prospects for the future provided we get the organisation right.
A. I think it is a most exciting time in medical research. You cannot help being excited.

94. What would you say was the most important thing that sticks out that ought to be done?
A. We ought to produce, not a vast amount of money, but enough money to create a number—perhaps a couple of hundred—of full-time research posts, preferably within the university departments, so that one could encourage people into research careers. I think we have the best graduates coming into medicine now, there are some outstanding people, and we should encourage a few hundred of those over the next year or two to believe that there is a career—a decent research career. That is what we should do.

95. What do you reckon a research post costs within social expenditure? What sort of money are we talking about for a couple of hundred research posts?
A. I am not prepared for that.

Chairman] I thought you might have a figure in your head.

Lord Kearton] About £50,000 per post with all the ancillaries? £10 million a year?
A. Something of that order. Yes. They would need a bit of back-up in terms of equipment. It is not a lot. I think the organisational problems are more difficult. But we are not talking about a vast amount of money.

Chairman] Thank you very much. It has been most helpful.

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HOUSE OF LORDS SESSION 1987–88

MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

Thursday 14 May 1987

ASSOCIATION OF THE BRITISH PHARMACEUTICAL INDUSTRY
Dr F O Wells, Mr D G Taylor

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THURSDAY 14 MAY 1987

Present:

Erroll of Hale, L.	Perry of Walton, L.
Flowers, L.	Rea, L.
Lockwood, B.	Smith, L.
McFarlane of Llandaff, B.	Taylor of Blackburn, L.
Nelson of Stafford, L. (Chairman)	Warnock, B.

Memorandum by the Association of the British Pharmaceutical Industry

ABPI is the trade association representing all the research-based prescription medicine manufacturers supplying the NHS, referred to in this submission as the British pharmaceutical industry. The latter spends more of its gross revenue on research and development (R&D) conducted in the United Kingdom—approximately 15 per cent—than does any other industry. (Individual company spending may of course differ significantly from this average.) The latest available Department of Trade and Industry figures show a gross British pharmaceutical industry R&D outlay of £550 million in 1985. (Includes capital spend, and veterinary and non-prescription medicine research/development costs.)

The information relating to progress since 1985 is not complete, but it appears that the industry has continued to increase its aggregate research and development spending in real terms. ABPI's projections indicate that the 1987 gross out-turn figure will be in the order of £650 million. The data available to the Association suggest strongly that the industry's net United Kingdom spending (excluding capital costs) on R&D on new prescription medicines for human use will be in excess of £500 million in 1987.

The revenue needed to support the industry's gross effort is generated in roughly equal proportions through sales to the NHS and sales to private domestic and foreign customers. In 1986 the total NHS consumption of medicines was in the order of £1,900 million (manufacturers' prices) and United Kingdom pharmaceutical exports were over £1,500 million. The net contribution of pharmaceuticals to the country's balance of trade was £850 million.

As a preliminary to the Association's responses on the more specific questions which the Sub-Committee has raised, it is stressed that the record of British pharmaceutical industry research facilities in producing therapeutically valuable and commercially successful medicines is outstanding. Four of the world's five best-selling medicines were discovered and developed in British pharmaceutical industry laboratories. The activities of the industry are thus of direct value to the community in terms of their medical research outcomes: and they also help to stimulate and support medical research in other contexts. The industry funds from its privately raised income academic work, most notably in the area of clinical investigations of new therapies together with a limited amount of fundamental research; it supports significantly medical research charities including, for example, the Wellcome Trust; and through its general contributions to this country's trade balance and the exchequer it helps the state to be able to fund other university, NHS and Research Council medical research endeavours.

The British pharmaceutical industry is thus an integral part of the nation's medical research infrastructure. It both contributes to and is to a degree dependent on the other key elements, including university/MRC financed fundamental research and the clinical investigation conducted with the NHS. (See the appended Figure on the stages of medicine development.)

The ABPI's responses to the Sub-Committee's questions are as follows:

(a) *Priorities for medical research.* Two main sets of factors influence British pharmaceutical industry research priorities. First, the strength of the "market signals" being received—private companies have a central responsibility to secure a profit for their shareholders. In areas where there is clearly great market demand for new therapies because of the numbers of people in need of better treatment and/or the severity and costs imposed by their distress innovations are more likely to earn a satisfactory income than in those where need is less.

The second set of factors determining industry research priorities are those related to technical feasibility. It may be that in terms of basic human need Britain would most benefit from, say, new medicines to prevent senile dementia and cure cancer. There is in fact significant British pharmaceutical industry investment in these areas. But if the state of knowledge is such that the main technical opportunities for therapeutic advance lie in other fields it would be wrong for the industry to ignore the latter. Obviously it is a question of achieving a reasonable balance, but companies must always be clearly aware of their responsibility to generate products which both contribute to better health and ensure a continued income flow. Otherwise its ability to fund future research would be endangered.

The available breakdowns indicate that at present over a fifth of the British pharmaceutical industry's research and development outlays relate to activities in the cardiovascular field. The next most significant areas of investment are anti-infectives and products acting on the central nervous system. These allocations appear appropriate, although it must be stressed that detailed information on the research and allied expenditures incurred by particular companies is not available to ABPI.

The requirements of the NHS and the health needs of this country seem to ABPI to coincide as far as medicine development priorities are concerned, provided it is accepted that the NHS exists to meet the health requirements of all sections of, and individuals within, the population. If it were to be argued that the need for rigid health care cost controls takes precedence over the latter then of course any life extending medicine might be thought counterproductive from the NHS's viewpoint, in as much as an ageing population requires more costly care. But ABPI would reject completely this type of approach to "health economics", on both ethical and logical grounds.

The Association would also reject any suggestions to the effect that pharmaceutical industry research for the developed world (which represents about 80 per cent of the global pharmaceutical market by value) should be subject to more central co-ordination and its R&D activities be prioritised along lines other than those derived from the tests of the market place. The historical record of the competitive free-enterprise industry in actually making available to consumers successfully developed products is outstanding. The ABPI can see no potential benefit, and some hazard, as being likely to be associated with the imposition of non-market controls over the direction and nature of the British pharmaceutical industry's research activities.

However the industry is, as already explained, to a degree dependent on the excellence of this country's non-commercial fundamental and clinical research. Activity in these cases may not so appropriately be directly driven by market forces, not least because of the remoteness and uncertainty of its endpoint goals. And with regard to world-wide human health and welfare it should be noted that the poverty of the less developed countries (which contain 75 per cent of the world's people who consume only about 20 per cent of the world's medicines by value) is such that market signals appropriate to the level of therapeutic need for new more effective medicines to treat tropical and related conditions may not exist. This is partly because of the lack of health care systems which, as in the case of NHS, embody reallocative mechanisms. ABPI suggests that research for Third World medicines is an area where supra-market funding mechanisms (for example, research projects being put to competitive tender as in the defence sector) might usefully be explored in the light of Britain's international role and responsibilities.

(b) *Balance.* ABPI believes that individual company decisions made in response to changing "market signals" and technical opportunities are the most appropriate means of allocating the research and development resources available to the industry. Overall, however, the Association is concerned about the level of funding available for fundamental research in the United Kingdom. As stated above this cannot be so appropriately determined or directed by "market signals" as can the activities in which industry is principally involved in. It is generally accepted that if the British academic biological and chemical research and higher education communities were to be "deskilled", then the long term outlook for science based industry based in the United Kingdom would be bleak.

(c) *The changing environment.* Pharmaceutical industry research and development priorities are vitally related to the medical, demographic and technological determinants of the market place(s) in which it operates. Pharmaceutical companies which fail to adapt their priorities to their changing environment will not in the long term survive.

(d) *Influence of the funding base.* Following on from the comments made in relation to a, b and c above it is axiomatic that commercially funded medical research should be aimed at generating useful and profitable new therapies as rapidly as possible. It is arguably not the task of industry to fund "blue skies" or "orphan" investigations which offer no forseeable prospect of leading to the availability of profitable products. However, this is once again a matter of balance about which it would not, in the Association's view, be wise dogmatically to suggest there is any one "correct" view. A degree of charity and/or pure scientific interest in the work of any commercial body may not only create unexpected trading opportunities, but also provide a more stimulating and acceptable environment for its employees and a more "human face" for the company.

(e) *Technology/research dissemination.* Both the patents system and the disciplines of the market place require the British pharmaceutical industry through its individual members to publish promptly the findings of its research and to promote new therapies as and when they become available. It is only through the successful sale of its products that industry can gain returns to its past investments and the income necessary to fund further research.

The British pharmaceutical industry makes every effort to promote appropriately its new products. There are on occasions, however, charges made to the effect that valuable research findings are not passed on by "secretive" commercial laboratories. The Association believes that a significant degree of exaggeration is often involved here and that a very high level of collaboration exists between company and academic researchers. But in theory at least the current weakness of the effective patent protection available on many new medicines could encourage counter-productive secrecy about industrial research.

Data relating to the erosion of pharmaceutical patent protection terms in the United Kingdom are submitted later in this evidence. At this stage, ABPI wishes to stress that any orderly and productive research community must have an adequate structure of intellectual property law to support its activities. In the Association's view it is critically important to understand the significance of patent protection in ensuring the stability of the commercial pharmaceutical market place, and the potential community disadvantages associated with today's much decreased effective terms.

(f) *Unnecessary duplication.* A degree of duplication in research is inevitable and productive, in as much as it spurs competition and reduces the risk of potentially valuable findings being overlooked. Similarly, even at the stage in which research is translated into products of use to the general public, plurality has positive functions. Once again competition between the suppliers of similar goods serves to encourage efficiency, and even minor molecular variations can be of benefit to individual patients.

The definition of "unnecessary duplication" in medical research is thus rather more problematic than might initially be assumed. But to the extent it is a problem its control, at least as far as commercially supported research is concerned, once again relates closely to the functioning of the patent/intellectual property protection system. In that patents serve to promote the publication of new research findings, they will also serve to prevent needless duplication of costly work. All research based pharmaceutical companies track the publication of patents relating to their spheres of activity, and the filing of a patent should encourage researchers freely to discuss and write about their work.

Similarly, to the extent that patents provide innovators with the right exclusively to supply their original products to the market place for a reasonable period of time, they will help to reduce the commercial need for product duplication such as the early introduction of alternative forms of the original product by the innovator. The firm establishment of the early entrants to the market will also reduce the likelihood of genuinely unnecessary "me-too" products made by other manufacturers being able to gain an economic "foothold".

In the case of medicines the grant of a temporary monopoly by patent is not in most parts of the world today accompanied by a freedom to make the maximum amount of money the community would be prepared to pay for the product. In the United Kingdom the Pharmaceutical Price Regulation Scheme (PPRS) limits company profitability levels to rates agreed with the DHSS. It is for this reason, taken together with the considerations touched on above, that the NHS would almost certainly, even in a crude accountancy context, stand to gain from the extension of effective medicine patent terms.

(g) *Research and patient care/health education improvements.* The responses given above indicate that ABPI believes that the potential benefits of British pharmaceutical industry funded research are efficiently transmitted to the public. Nevertheless certain problems do exist in relation to, for example, delays in product marketing related to the working of the regulatory system which exists to licence pharmaceutical products in the United Kingdom. In this context, ABPI welcomes the Government's recent decision to establish an enquiry into the working of the medicines licencing authority.

(h) *Training priorities.* The Association wishes to stress in the context of clinical medical research that there should be thorough training of all those involved in it, and that able individuals should be able to look forward to a worthwhile lifetime career in the area. At present adequate training in research methodology is a rarity, and research activity has to be secondary to clinical practice for those wishing to attain the highest professional positions. More broadly, ABPI regards it as being for the community as a whole unfortunate that very few individuals working outside the industrial environment appear to have a sympathetic or informed view of the role of commercially funded/market lead medical research. Some basic grounding in the theories of market economics would be a desirable element in the education of all medical researchers. The British pharmaceutical industry would through ABPI be pleased to contribute to the development of appropriate teaching material.

(i) *Specific changes in the organisation or funding of research.* The British pharmaceutical industry is committed to funding a significant volume of research activity conducted in academic departments and NHS hospitals. It very much values the opportunity to be able to commission such work, and benefits from its findings. The industry is, however, increasingly aware of the frustrations experienced by doctors and scientists working in such environments related to the level of funding available to them from government supported sources. Neither the non-commercial research community nor the industry itself stand to benefit from an over reliance of the former on the latter.

ABPI is also generally aware of manpower shortages in medical research and of recent proposals under which many research registrar posts would be phased out. (See "Hospital Medical Staffing—Achieving a

Balance'' a consultative document issued by the United Kingdom Health Departments, the Joint Consultants Committee and the Chairmen of the RHAs in 1986.) This could prove a disastrous step for pharmaceutical research in hospital and academic departments, and in time be seriously damaging Britain's pharmaceutical sector as a whole.

Turning now to the question of intellectual property protection the average length of time taken between United Kingdom patent filing and the marketing of medicines launched in 1986 was 12 years, leaving only 8 years of effective, on the market patent protection out of a nominal term of 20 years. In the future the effective pharmaceutical patent term is projected to fall even further, and certain products still to be launched are likely to be affected by the licence of right provisions of the Patents Act 1977. In their case an effective patent term of under four years is a realistic prospect.

The Government in April 1986 expressed a commitment to amend the existing legislation so as to in future exclude pharmaceutical patents from the effects of the licence of right provisions, ''as soon as parliamentary time permits''. Parliamentary time has not so far permitted the Government itself to introduce an appropriate measure, and a Private Member's Bill introduced into the House of Lords by ABPI's advisor Lord Northfield (on the advice of Lord Whitelaw) appears to stand only a limited chance of success, despite the fact that it was drafted with Government help.

It is not relevant to this evidence to go into the details of this particular issue in depth. It is sufficient merely to state that although the Bill enjoys the support of the DTI and DHSS ministers, certain members of the Upper and Lower Houses seem committed to opposing it on the grounds that it would raise NHS costs. Such individuals appear to reject out of hand the arguments put forward by ABPI and the Government (see House of Lords Hansard, 19 March 1987, columns 1548–49) to the effect that such a change to the United Kingdom patent laws would in the main protect research based pharmaceutical companies' incomes from copyists without driving up overall NHS spending levels. They also seem oblivious to the benefits generated by pharmaceutical industry funded research and other activities in the United Kingdom.

The Association profoundly regrets that it does not at this time appear possible for it to stimulate an informed and constructive debate on the issue of intellectual property protection related to medicines in British Parliamentary circles. The licence of right issue is but one aspect of the important overall questions which need to be addressed, namely ''how long should effective pharmaceutical patent terms last for, and how can appropriate changes in current United Kingdom arrangements be made?''.

ABPI would be happy to supply the Sub-Committee, either verbally or in writing, with additional material relating to this matter.

This submission, however, concludes with the following points:

1 Most patentable products enjoy approaching twenty years of ''on the market'' protection. Pharmaceutical innovators currently have an average of less than half this period of right to a temporary monopoly of supply, and medicine patent life erosion is continuing. ABPI believes that medicines should have effective patent terms equivalent to those enjoyed in other sectors.

2 Given the existence of the PPRS and related controls, improved patent protection would not give the pharmaceutical companies the ability to make undue ''windfall'' profits from the NHS. But it would help to increase the confidence of the companies funding research and development, and to in several important ways stabilise the working of the market place.

3 Respect for intellectual property and appropriate statutory provision for its protection is a necessary characteristic of any free market system capable of sustaining an ongoing research effort. Britain's commercially funded medical research is strong at present, but in danger of sliding into financial disorder because of failures on the part of Parliamentarians and others to perceive the significance of this issue.

4 The US and now Japan have moved to strengthen the patent protection available for pharmaceutical innovations. The available data indicate that new products introduced into these domestic markets in the early 1990s will enjoy, should existing laws remain unamended, more than twice the period of patent protection available in the United Kingdom domestic market, regardless of issues relating to the licence of right question. Under such circumstances the future of the United Kingdom based pharmaceutical industry as a major contributor to world R&D and a successful exporter of innovative products will be threatened. The demise of the commercially funded sector of the British medical research community would almost certainly herald the end of all significant British medical research enterprise.

5 The Sub-Committee will probably be aware of the two reports published recently by NEDO—''A New Focus on Pharmaceuticals'' and ''Pharmaceuticals: Focus on R&D''. ABPI endorses the conclusions contained in both these documents, including those relating to the need to fund adequately the non-commercial British fundamental research sector through the UGC and the Research Councils.

THE STAGES OF MEDICINE DEVELOPMENT

1	2	3	4	5
Academic observations and development of understanding of disease mechanisms. Generation of therapeutic hypotheses.	Discovery stage. Candidate medical substances identified and selected.	Development stage. Assessment of activity and preclinical and clinical safety and efficacy testing. Production establishment, demonstration of product quality.	Product Registration	Post marketing development. Adverse reaction reporting, event monitoring, new use identification/ approval.
Stages 1 and 2 may take from 3 years to over 20. Stage 1 often takes place outside the commercially funded research environment. Patents normally filed towards the end of Stage 2.		Stage 3 typically takes from 5 to 11 years. Clinical work requires a strong national clinical medicine base.	Product Registration may take from 6 months to 2 years.	Average effective patent term left now under 8 years of the full 20 years term.

Examination of witnesses

Dr F O Wells, Director of Medical Affairs, and Mr D G Taylor, Director of Public and Economic Affairs, Association of the British Pharmaceutical Industry, called in and examined.

Chairman

96. Good afternoon, gentlemen, welcome to our Committee and thank you for coming along this afternoon. We appreciate your giving the time to join us in your busy life. May I express appreciation for your paper, which is extremely useful and very informative. I would like to start by drawing attention to some of the figures to which you refer in that document, to your expenditure on R&D in the industry as a whole of 15 per cent, amounting to some £550 million, or even more today, of expenditure in the R&D field, and also to the very favourable balance of trade in the industry, amounting to some £850 million, which is, by any standards, an extremely impressive set of figures. It is also interesting to note that your sales approximately as an industry are 50 per cent to the National Health Service and 50 per cent elsewhere.

(Mr Taylor) Correct.

97. I would like to open the questioning, if I may, from the Chair with two questions which I think would be interesting to start our enquiry. They relate, first of all, to the question of patent cover, to which you refer, and secondly, to the motivation of the industry, which is essentially the marketplace. Perhaps before I put those questions I ought to ask you whether you would like to add anything more to the document which you have already presented to us?

(Mr Taylor) No, I think that as far as I am concerned the document sums up what we wanted to bring to your attention.

98. It sums it up very excellently, if I may say so. On the question of patents, you outline your concern very clearly in your paper, and in the context of the figures to which I have referred, namely, the great benefit which accrues to the economy through the R&D of the pharmaceutical industry, I would like to be clear as to what, if anything, you think should be done about the question of patent protection, which, according to your own statement, is out of line with that in

[Chairman *Contd*]

competitive countries, which is perhaps a good measuring stick.

(Mr Taylor) Let us take that from the very beginning. Obviously in any market system, unless you have a body of intellectual law and some form of patent or other protection you are unable to sustain an R&D effort because, very simply, when you put an innovative product on the market somebody with much lower costs will come along and take your market by selling much more cheaply. So we have to have patents. The argument against patents and intellectual property rights is that they unfairly favour innovators—that they can over a very long time make more than average profits. But with pharmaceutical industry patents we have a situation where, although the normal term is 20 years, because it takes a long time between the time when you file the patent and when the product can get on to the market——

99. You have to go through this cycle of expenditure to get it on the market?

(Mr Taylor) Yes. It takes 12 years, so of the 20 years you have at the moment about eight years left. But erosion of patent protection is continuing and very generally what that means is that without patent protection to protect them, companies are very reliant on brand names, and this may be a major concern for the future. In the United States and Japan legislation has been passed which means that pharmaceuticals can be looked at in the light of this erosion to give them a patent life extension of up to 14 years of on-the-market patent protection. If the situation remains unchanged in the United Kingdom, in the 1990s we will have products which will have half the patent protection on the domestic market that they have in the United States and Japan, and the likelihood is that the research will follow to the areas where the domestic market is greatest and those domestic markets will be the targeted areas. We have to add that another factor which has affected the situation is the issue of licence of right provisions. This is a specialist issue, which I would be happy to expand on. It is a further complication which further reduces the patent life for some products on the market.

100. We will take those as read.

(Mr Taylor) I think the argument must be that we would like to see much longer patent lives for pharmaceuticals. Any change may well have to be at a pan-European level so that the on-the-market patent life is comparable to that of other goods, that is in the 15–20-year range. In the chemicals industry they feel hard done by if they take two or three years between filing and marketing. I would like to see basic protection of at least 15 years for medicines and allied goods. But people who oppose this might feel the pharmaceutical industry can earn undue amounts of money from the National Health Service, so you have to see that over the life of a patent you have a Pharmaceutical Price Regulation Scheme, which ensures that it does not, because a patent is a device which to a degree protects the company from market forces. If you want such protection you have to accept that on the domestic market and other markets in the world people will want to make sure your prices are not excessive. There are other advantages associated with patent protection and we touched on them in our evidence. I have touched on the question of reliance on brand names and promotion, which will always have a role, but it cannot be too dominant. There is also the question of duplication in the marketplace, which may be related to patent protection.

101. Can you explain what has been done about this because we do not want to spend time on a subject which has been flogged out elsewhere.

(Mr Taylor) I do not think it has.

102. You do not think it has been taken up elsewhere?

(Dr Wells) Circumstantially, no.

(Mr Taylor) Absolutely, no. Our situation is very different from that of other industries, so it is a special case. It is an extremely complicated issue, which does demand a special economic insight. I think that, unfortunately, although the issue of licences of right has been discussed in this place and other places, the basic issue of patent life and its significance and its balancing role in the process of research and marketing medicines has been terribly neglected.

(Dr Wells) I think one thing which is perhaps worth commenting on at this stage is that there is increasing pressure on doctors to prescribe generically rather than by brand name. We would say if doctors were to be encouraged to prescribe by the brand name there would be less urgency in saying that patent protection should be safeguarded and there should be an extension of patent life. I think everybody would feel happier, including those doctors who have a basic wish to prescribe cost-effectively in the NHS particularly and who believe that generic prescribing is right and proper, and we would feel much happier about this if there were patent protection for those products which have had these tremendous amounts of money invested in their development which companies are not going to recoup the cost of if generic prescribing is introduced more widely, particularly if generic substitution is introduced.

103. Can you explain what is different about the patent law or patent situation in this country as compared with other countries which give a more favourable position to their pharmaceutical industry?

(Mr Taylor) Let us take the position of the United States, which we can take to be the leader in this area. There is a lot of misleading data quoted. The basic term now in the United Kingdom is 20 years, which was extended in 1978 from 16 years. The basic term life in the United States has been quoted as 17 years; in fact, it is 17 years from the date of grant, not the date of filing, as in the United Kingdom, and there is about three years' difference,

[Chairman *Contd*]

so we have roughly the same basic term for a patent.

104. That applies to the general patent law? It is not peculiar to the pharmaceutical industry?

(Mr Taylor) All patents.

105. That is the difficulty.

(Mr Taylor) Right, and what the Americans did in 1984 in the specific context of pharmaceuticals was to introduce legislation which permitted manufacturers of drugs protected by patent to apply for a special extension of the patent, so they get up to 14 years' on-the-market patent life. That in essence is the special provision in the United States for pharmaceutical patents. There were other changes in law in the United States. Previous to 1984, when that was passed, it was extremely difficult indeed to get generic copies on the market in the States. That was made more flexible but the situation in Britain is such that it has always been easy to get generic copies on to the market.

Lord Flowers

106. Could I continue about generic drugs and brands which we have not talked about before? Four questions occur to me from what our witnesses have said. First does anybody suggest that the quality of generic drugs is any worse or any different from the brand ones? Second, how do the prices compare? Third, what is the market penetration of the generic drugs compared with the others? Fourth, what sort of profit margins are there for generics and brands?

(Dr Wells) Can I answer the first one? As far as the quality of generics is concerned, those manufactured in this country have a quality as high as those brands manufactured in this country largely by companies which are members of the ABPI and are governed by the regulatory mechanism for licensing arrangements in this country, as is well known. Although there are theoretical safeguards against the importation of pharmaceuticals which are substandard and also against those which have been exported out of this country at a reasonable standard for the countries to which they are exported, possibly to another specification, then reimported back, those safeguards are not able to be put into practice. What in fact happens is that there are some products which get onto the retail market which are in fact below the standard of the branded product. Now, the copyright laws mean the situation is, if the branded product is prescribed, that it must be dispensed and with it goes the implication that there will be adequate quality control and it will be guaranteed quality control. The other thing as far as the generics are concerned is that a branded product may well have special properties in the delivery mechanism. For instance, it may well have a special matrix or enteric coat or whatever over and above the active ingredient.

107. You are sugaring the pill?

(Dr Wells) Sugar is one inactive ingredient we will be trying to get rid of. But the way in which the tablet behaves, as it were—crumbles, dissolves and so on—may be quite different between the branded and generic. There is a very good example in an anti-epileptic drug: if prescribed generically you will get a good slug of the drug but the side-effects will be poorly controlled but with the branded preparation, which would appear to be the same, you will get sustained release in theory and in practice I think this actually happens. So far as quality is concerned there is that sort of concern. As far as the prices are concerned, then certainly some generic products are cheaper than branded ones—most but not all.

(Mr Taylor) First on the economic point, the argument for patent life extension does not depend on the argument suggesting generics are inferior—although some may be. For the purposes of my argument I can assume quality is constant. On the question of prices—you may be able to find examples of generics sold more expensively than brands in some situations. That would be very rare. Certainly you can find examples of generics being 20 to 30 per cent cheaper commonly and you will find examples of 50 per cent or more cheaper in some instances. The question is to explain why that is. What are the consequences of extending patent life? Would one be driving up the overall costs of the National Health Service or the purchaser generally? Why is there a price difference? The low cost manufacturer may not be carrying the same overhead costs, whether they are to do with research activity or information provision, which the responsible manufacturer does. Also the low cost copier may be importing at marginal cost from abroad, from other manufacturers of pharmaceuticals, and the difference between average and marginal cost is very significant. They may not be producing at all, they may be buying cheap from another big manufacturer. The reason for the price difference is then fairly easy to account for.

108. You would agree that reducing the price of a product of the same quality at any rate is usually regarded as a positive contribution to the economy?

(Mr Taylor) Of course, yes. The question is in the special market is this sensible? Let us take as an example a product where the original innovator's price is 100, carrying 20 per cent research costs, and the copier's price is 75. Say you buy the one at 75, you save 25 per cent of spending but what you have done has been to wipe out your contribution to research and development and wiped out the entire earning of the research-based company. He has lost 100 per cent, not 25. There are many situations in which you may decide that extra payment is a legitimate one and in the reality of the marketplace, of course, what the innovator does is attempts to earn his premium from R&D in the absence of adequate patent protection by spending heavily on promotion as well. So you may if you extend your patent protection in the context of a properly working price and profit control scheme be able to save money in some areas as well as securing the

[Lord Flowers *Contd*]

innovator's position. Your subsequent questions were on the share of the market which generics have. In a market like the United States something like, I understand, 30 per cent of medicines which are not on patent are prescribed or dispensed generically. In the United Kingdom on penetration all I can say is about 20 to 25 per cent of scripts following the limited list are generic, that represents probably something of the order of 7 to 8 per cent in value because, remember, these tend to be older lower cost medicines anyway. Either way, on the question of contribution to profit—this is uncertain—it is quite consistent to have a higher profit and lower price if your other overhead costs are much lower. I do not believe the generic industry necessarily runs at lower profitability than the research-based industry.

Lord Flowers] Thank you very much. Your paper does raise the question, to which I will return later, of how much research pharmaceutical companies should do.

Baroness Lockwood

109. Could I just pursue this? I do not know if Lord Flowers does want to come in but in view of the fact that the penetration of the generic drugs in the United Kingdom is so small, has it yet had any effect on the research, and do you anticipate that there is going to be a considerable effect in the future? How far have you looked at this? Secondly, on the question of quality, what Dr Wells said I think is very important on the effect of drugs, their immediacy, the side-effects. Who is responsible for assessing the quality of generic drugs in all their aspects and therefore advising the National Health Service that these drugs are interchangeable?

(Dr Wells) I am answering the second first. I will come back to the research bit with Mr Taylor later if I may. To answer the quality control aspect, it is obviously up to individual companies to ensure that their quality satisfies the licensing authority, in fact, on three fronts. It has to satisfy itself a product is worth giving a licence to on safety, efficacy and quality. Given that the manufacture of generics in this country is to a high standard, nevertheless—with comparable quality, in terms of absolute purity and with comparable efficacy of different generics—there is really no body which has that particular responsibility. Individual companies will know and research will show in the published literature what differences there are—or they may show it—but in practice there is no way in which doctors are informed about the practical differences between different generics. So long as they do fulfil the criteria of safety, efficacy and quality (really in terms of purity), then they get a licence.

110. And nobody monitors the different effects?

(Dr Wells) Not in practice.

Lord Perry of Walton

111. A number of claims are made by the salesmen of the various companies for the different wonders of the different preparations?

(Dr Wells) Yes, but as far as branded preparations are concerned they know they are of a certain standard and consistency of standard, which is most important.

112. They will make comparisons with generics?

(Dr Wells) Indeed, but in terms of saying there is a consistency in the way in which the drug behaves, which cannot be guaranteed with generics, particularly if you are giving different generics which are differently prepared and produced. I did not appreciate as a doctor myself until I joined the industry how much the different presentation of a product in terms of the relationship with the active ingredients and side effects actually matters, and it does.

Chairman

113. Could I be clear about the priorities in research in this country and, related to what we were talking about on patents, to what extent do international pharmaceutical companies deliberately shift their research and development from this country to another country where the patent position is more favourable to them?

(Mr Taylor) I think the answer to Baroness Lockwood's question was not finished.

Baroness Lockwood

114. No.

(Mr Taylor) Let us pick up on the effect of research to date in Britain in the post-war period. The relationship between the Health Service and British industry has been a fairly constructive one, and by a combination of market pressures and Government intervention, in the form of the Pharmaceutical Price Regulation Scheme, we have relatively low Health Service spending. Remember, we are one of the world's beneficiaries of the pharmaceutical trade to a very significant degree and yet our expenditure overall on medicines is only about half that of America, France, Germany or Switzerland. At the same time, however, we have a strong pharmaceutical sector, which accounts for roughly 10 per cent of the world's R&D spending. So whatever effects the generics have had, to date they have not destroyed the British pharmaceutical industry, which is strong and its research is strong. My fear is that I have to defend against the effects of a possible future situation, if you have a combination of very weak patent laws coupled with, say, mandatory generic substitution, where the earnings of the industry and its ability to undertake R&D will be very much weakened.

Chairman

115. There is no evidence of that at the moment? That is a fear rather than a reality?

(Mr Taylor) I would say the limited list was the only thing which undermined investment confidence in the United Kingdom. It did not slash investment but it undermined investment. But so far overall we see a desirable combination of a

[Chairman *Contd*]

strong pharmaceutical industry and reasonable spending levels within the NHS.

(Dr Wells) I have been impressed by the buoyancy and vibrancy of the industry since I joined seven months ago, but going back to the research part of Baroness Lockwood's question, there are some companies, for instance Roche, who happen to have been hit very hard in one of their major therapeutic fields, which is the field of tranquillisers, where they were affected by the limited list, and now only the generic preparations of benzodiazepane are prescribed. For whatever reason—it may be fear rather than the actual cut in profits—it has meant that the whole investment in research by that company in this country, which is an awful lot of United Kingdom research, has been undermined in fields other than psychoactive drugs. May I also refer to a company which has produced in the past a lot of the products which have been on the limited list, such as coughs and colds remedies, Robins. They were about to embark on a lot of research projects into more adventurous fields, which have been completely undermined and, in fact, stopped, and they have sold their research unit because they cannot afford to run it because of the effect of the limited list—and most of their research projects were not, in fact, on products which would be on the limited list—even though their research projects for the future were decided on. Those are specific examples where there has been a cutback as a result of generic requirements or the fact that something was not able to be prescribed on the National Health Service at all.

Lord Rea

116. I want to take you up on that point, talking about the products affected by the limited list which are made by Roche, on all of which their patents have long expired, and on this question of the relationship between length of patent and the acceptability of generic prescribing. If, in fact, a satisfactory arrangement could be made so that—and you say 15 years of marketing should be negotiated for, which would be desirable—maybe something like 10 or 12 years were guaranteed for each product, would that be the sort of thing the industry might settle for and then accept generic substitution in return, as it were, for economy purposes?

(Dr Wells) I do not think substitution in the foreseeable future but a much greater commitment to generic prescribing with the safeguards that we need.

117. If you were happy about the patent issue you might find the other issue easier to deal with?

(Dr Wells) I think the substitution issue is something which is pretty emotive and so long as there are, I would say, adequate override mechanisms so that the general practitioner or the doctor can prescribe the branded product if he opts to do so and there is the patent protection, then I think we would be in a position to talk about this, but at this stage, with the situation as it is now, generic substitution is something which we implacably oppose. Mr Taylor can comment more in the financial context.

(Mr Taylor) Could I correct a point on the record? There are several points which slipped by. First, I think in the particular context of Roche, which is so widely talked of, it should be noted that the company has defended its R&D effort in this country. It lost its domestic volume sales, yet, as far as I know, the company has done everything possible to support its R&D. On the general point you raised, Chairman, first of all, if you lose the domestic market the thing that goes first is the domestic production and then new research projects tend to follow where the main plant is sited. That is the way it works and it is a very long-term process. Specifically on the point of patent protection, I quoted 15 years but I think many people in the industry are thinking, other industries have jolly near 20 years: why should we be subject to all the controls, the Pharmaceutical Price Regulation Scheme and profit control schemes, which do not apply to other industries and yet have much weaker patents? The other point is that there is some sort of balance between the intellectual property law as it applies to patents and as it applies to trade names, because every other industry has access to the ability to use a trade name, and you are talking, in affect, of withdrawing from the pharmaceutical industry the ability to go out and use the brand name. If you were to have some change in the law which strengthened patent protection and another change which introduced mandatory generic substitution, the industry would lose its earnings immediately and only very much later would the effect of the patent protection be apparent, so we have to be very careful in discussing that area.

118. There would need to be a phase of agreement?

(Mr Taylor) Exactly, but that is a point which I am not mandated to talk about.

Lord Flowers

119. I must be careful; I come from a university which benefits greatly from the pharmaceutical industry and I do not want to kill the goose! May I be assured that we are not really funding, in fact, a cartel? The poor old patient who has to pay for this industry or the poor old Health Service, which even more has to pay for it, feels sometimes that there is a sort of price-fixing going on to keep prices high, and for good reasons. The good reasons are the R&D programmes which we all know of, but we shall get eventually to the question of how much R&D is it justifiable to do if it keeps the cost of the drug to the customer or the patient very high?

(Dr Wells) Purely one point as far as that is concerned: given that there is agreement between the government of the day, the Department of Health and the pharmaceutical industry on PPRS, I think that, if there was not that, there would be a great deal of concern expressed.

Chairman

120. Could you tell us a little bit about that, for those who are not informed?

(Mr Taylor) Very briefly, the Pharmaceutical Price Regulation Scheme is, in fact, first and foremost a profit regulation scheme. Each company negotiates with the Department of Health, after providing figures about its total investment in the United Kingdom, and the cost of its production. First of all, a ceiling rate of profitability is arrived at. Companies can earn less than their ceiling but they jolly well must not earn more in relation to those basic negotiations. Also the cost structures in the companies are looked at, the amount they spend on promotion is pegged, the amount they spend on research and development has an upper limit imposed, their other costs are controlled. So the net result is that one has a scheme where, although companies are relatively free to price individual products which allows for competition within the marketplace etc, they are not able to impose upon the Health Service excessive overall costs either in terms of the profits earned or in terms of——

121. Does it look at profits in relation to the company's overall turnover or each individual product?

(Mr Taylor) That is very important, not against each individual product. The split is between the costs and profits made in the context of the Health Service and the costs and profits made in the context of sale abroad or to private people in the United Kingdom. It is important to realise, as I said before, that this country is one of the world's major beneficiaries of the pharmaceutical trade. You yourself referred to the £850 million balance of trade. Yet domestic spending per head is amongst the lowest of the major developed countries in absolute terms.

122. Is the R&D figure agreed as a percentage of turnover?

(Mr Taylor) The R&D figure works out in the United Kingdom at around 20 per cent of turnover I am informed.

123. That is in agreement with the DHSS within the price formula.

(Mr Taylor) Each company will be in negotiation. It is different for each company. That is a good guess at the average figure.

124. That is important. May I direct the thoughts of the Committee to the question of the marketplace which you mentioned quite often in your submission? I can quite understand the arguments you put foward that in commercial companies you look for the best opportunities which exist in the marketplace, but from the point of view of R&D this may, of course, not be the best way of determining where the R&D expenditure is incurred. In other words, R&D may all go where the market prospects are good at the expense of R&D in those areas where there may be very considerable need but not such good commercial advantages. How would you see that situation being dealt with? I can see the forces at work from the commercial point of view but I am not quite clear how one takes care of the priorities of research which may not necessarily be the same as the priorities of the marketplace.

(Dr Wells) I think we absolutely accept that. Looking at the industry as a whole in this country, obviously there is considerable investment in those things which the marketplace actually reflects where, if you like, the needs are in terms of health and the treatment of illhealth. So cardiovascular research obviously...

125. That is where the need is today but may not be tomorrow.

(Dr Wells) I absolutely accept that. We also accept, it is worth commenting, that a considerable amount of research is going into most therapeutic fields—obviously it is variable—but also into what you could call the "orphan" therapeutic field, where, unless a company charges an incredible amount of money for the treatment of a rare condition, it is not going to make any profit but there are some conditions which at the moment do not have appropriate treatment, the conditions themselves may be rare, and the treatment for those conditions itself will not be expected to make a profit, but where nevertheless there is research going on into better treatment for those conditions which are not able to be effectively enough treated by pharmaceuticals at the moment. Also there is a commitment—surprisingly perhaps but a commitment—for research into drugs which have no direct application in this country at all, but in Third World countries, which I want to touch on, though not to be developed any further at this stage. I am saying it is a comprehensive spectrum of avenues in which research takes place, it is not just the ones which the marketplace determines now, it is looking to the future as well.

Baroness Lockwood

126. On what basis is it determined?

(Dr Wells) I think it is really determined on whether there is a need, to a certain extent, not exclusively because obviously companies will say research cannot take place into better products for the treatment of a condition which may have quite reasonable treatment available for them now. I think it is impressive visiting pharmaceutical companies, talking to the research scientists there, and if there is something which appears to have a therapeutic benefit, even in a minority field as it were, it is allowed to be developed.

(Mr Taylor) Could I add a point here? Economists tend to use the phrase "market forces" quite separately from the way other people do. This does not aid communication. In the pharmaceutical industry we live in a very complicated market. The Health Service itself, which provides half our market signals in the United Kingdom, is a device for correcting inequalities, for sharing risk like

[Baroness Lockwood *Contd*]

insurance systems, picking out the ones that are hurt and the others pay for them. So in a sense inequalities should be corrected by the structure of their Health Service. The demand message which the Health Service gives us will indicate, its willingness to pay a higher price for a low volume product which give the industry the security to go on investing. I do not think any company sensibly would invest in those areas likely to end in their going bankrupt—that would be madness. As far as the rich world context is concerned, the fact that we have insurance systems, the fact that we have in the United Kingdom a National Health Service, should mean the signals coming to the industry guide it to invest in those areas where the most welfare is going to be generated. The signal coming through to the industry is inappropriate where you have a very large number of very poor people without a health service, as in parts of the Third World: then I think we might be looking at a market failure, depending on your moral standards. It gets down to morality.

Chairman

127. I am not sure that I have quite got the gist of this. Supposing you had an established need and you also had a possibility of research and development leading to a drug which met that need, so that everybody agreed there was a need but the risk was high, shall we say: the pharmaceutical industry could say "We are not going to do it because the risk is too high, we can spend our money much more advantageously elsewhere". The Health Service might say, "We are not going to support it because we think the drug industry ought to support it because they are going to get the advantage of it when its success is proven." So at the end of the day who in fact does it? The pharmaceutical industry says it is not going to do it, the risk is too high for the National Health Service, and the MRC say they are not because they think it is a job for commercial industry. Have I made my position clear?

(Dr Wells) Yes, indeed. I think the evidence is not there that the industry ducks out comprehensively if issues where there is a need. Please forgive me if I am wrong, but I think the situation which you quoted is almost hypothetical, I do not think it exists.

128. It does not exist? I would be rather surprised if it did not. I would not blame the industry for it, they have a limited amount of money and have to decide where they put it.

(Dr Wells) I do not think it is actually affecting too much the potential development for drugs in the various fields, certainly in this country.

129. Let me put the question in perhaps a different way. Is there adequate co-ordination between the research which is carried out in the pharmaceutical industry and through the natural market forces to which you refer and, on the other hand, the various Government agencies who have a responsibility for trying as best they can with the available money to cover those areas which are not covered in this way?

(Mr Taylor) You are getting down to the distinction between fundamental research and applied research. The task of managers in the pharmaceutical industry is, with the funds available to them, to develop new products which improve human health and happiness and produce profits for their shareholders. They cannot afford to invest in very high risk areas where they may spend hundreds of millions of pounds and get nothing back. This would be a dereliction of duty. Their job is to earn money for the shareholders and the country, and its tax system. Government and leaders of universities and academia have a duty to fund fundamental research through the research councils, the UGC, etc. Really drawing the dividing line between fundamental research and applied, commercially-oriented research is always going to be difficult. In our evidence we make it clear that we feel our task is to contribute to the commercial research and it is the Government's task to make sure that the research councils and the universities are adequately funded.

Chairman] The Adviser tells me that in Cambridge they have had a series of very interesting patients with a rare condition called Wilson's Disease, which is an abnormality of copper metabolism. The man working on it, Dr John Walshe, is the son of a very famous neurologist: there are neurological complications in the illness. Walshe managed to develop in his own laboratory a treatment. The only way he could ensure that his treatment was available not only to the rather small number of United Kingdom cases, but to the larger number of cases from the Mediterranean, for example, was to ensure that the Medicines Division did not put very heavy responsibilities on him for the expensive part of the development, namely their toxicity testing. It was an extraordinarily interesting situation where John Walshe, like a medieval physician, was making a potion in his laboratory and accepting the responsibility for its purity and prescribing it to the patients successfully, to the extent that the East Anglian Region were worrying about so many people coming from so many parts of the world to be tested and given his treatment. This was a very interesting balance of regulatory medicine and toxicity testing and the charitable impulse of a doctor who wanted to take care of his patients with a rare disease on the one hand, and on the other the difficulties that the pharmaceutical industry would have had if they had tried to take his compound up, because they would have instantly had imposed upon them the very expensive toxicity testing, which in all the circumstances would have made the drug a real economic loser. The solution that was found with Dr Walshe was a very good example of British compromise. Everybody was compromised a bit; Walshe compromised himself in making the product in his own laboratory. He could

[Baroness Lockwood *Contd*]

have been at some risk, although I do not think anyone would have taken him to court had there been any side effects.

Baroness Lockwood

130. How long did to go on?

(Mr Taylor) That is an example of the second sort of orphan. There are two types. We can have very expensive drugs going to a small number of people, and that is the rich world orphan drug. The other sort of orphan medicine is something which is reasonably cheap to produce and there may be a heavy demand for it but the demand comes from people whose problems are related to terrible poverty, and that is the poor world orphan drug.

(Dr Wells) There is evidence of both going on and I am sure the industry could not do what Walshe did in Cambridge. But there are many instances of some fairly rare tumours which will respond to the right sort of chemotherapy as opposed to radiotherapy and hopefully there will never be too many of these serious growths, which are sarcomatous rather than cancerous. There is specific research going on for a better product to treat that sort of condition. A Research Director told me yesterday there are 120 known patients in this country at the moment with that particular form of osteogenic sarcoma.

Chairman

131. Pursuing this question of priorities further, which is the basis of our terms of reference, would you like to express any views to us on the industry's feeling about priorities in research in the medical field as related to the needs of the Health Service?

(Dr Wells) The priorities are undoubtedly, as far as individual companies are concerned, in the fields in which they either have traditionally operated and, therefore, have a great deal of expertise, or in which they perceive (following the basic research, to which Mr Taylor referred, being done and basically co-ordinated in academic departments and the MRC, and the basic research which is done elsewhere) there is something which can be developed in the field possibly because there is international support for a multinational company with a United Kingdom subsidiary or a United Kingdom demand, or a multinational company perceiving that there is an international need for a product. I think that it is not necessarily co-ordinated throughout the industry but it so happens that the marketplace has shaken out so that each individual company has its own particular priorities in research. The main fields of research at the moment are certainly geared to current medical needs but how well co-ordinated the research is for future medical needs is very difficult to comment on and I think it would be very difficult to predict.

(Mr Taylor) I think the evidence is if you take that combination of, on the one hand, apparent need and, on the other hand, apparent do-ability, then broadly the allocations of the industry relate to things like cardiovascular disease, medicines which may affect the central nervous system, medicines that control infections—viral, baterial or fungal. We said in our evidence that they are appropriate. This is perhaps a little strong. There is no reason to suppose they are inappropriate from the data which we have available but there is going to be an element of chance in all this about where you generate the most reward. If by investing tomorrow we were able to treat multiple sclerosis in full that would be great. But if we spent £50 million per annum for 50 years and did not treat it it would be an awful shame if we did not try to treat cancers and senile dementia instead. There is always a choice in individual research programmes, and an element of chance.

132. You say in your paper (page 18): "The British pharmaceutical industry is thus an integral part of the nation's medical research infrastructure. It both contributes to and is to a degree dependent on the other key elements, including university/ MRC financed fundamental research..." Is there a lack of integration between these three elements?

(Mr Taylor) I see no reason to suppose that.

133. Are you satisfied with that?

(Mr Taylor) From our point of view it would seem to me we are an integral part, in the sense that we take fundamental ideas and exploit them. This country has long had a reputation for doing fundamental research and then giving it to the Japanese and the Americans, etc. In this area we seem to be able both to generate fundamental ideas and make products. That is why when people say the pharmaceutical industry spends too much on research I can defend the industry's spending absolutely. If you want to be able to go on earning money in the world marketplace and be strong, and academically strong, you have to make sure you exploit your ideas yourself rather than leave it to other people to earn money from them. The terrible story of the CAT scanner is a warning to everybody. It was developed by a British scientist working with the Department of Health and they stopped at the point that arbitrarily the authorities thought appropriate for the development of that project and the market asked for more sophisticated products, which the Americans and others made, so we lost out. If you put controls on pharmaceutical research and say, "We will not bother to go for that sort of sophistication," that will be the inevitable result for Britain.

Lord Flowers

134. Of course, I agree with that, anybody would. But there is still a point as to how justified you are in making drugs that are cheap to produce expensive in order to do more research to cure the next disease and, by doing so, making the drug that is readily available inaccessible to patients. There must be some balance to be struck there. What I am asking is, have you struck the balance right? You have not given me any evidence to suppose you have

[Lord Flowers *Contd*]

struck it right. You have struck it somewhere or other—is it right?

(Mr Taylor) I do not think it is we who have struck it, I think it is the Department of Health who decides what are the appropriate contributions. They can compare what is happening everywhere else in the world market. There is not doubt our figures on prices, costs, expenditure and earnings all appear in favourable ratios. I do not think there is any evidence that the great majority of medicines available in the United Kindom anyway are not available to the people who need them. There has been a scare recently about AZT. I suggest that is an extremely special case. Otherwise I think you do have that issue of balancing out how long the patent protection should go on for where you are paying a slight premium for research and then dropping to the commodity price level. I think overall prices are a matter for analysis which I hope has gone on and believe has gone on. I do not believe there is any evidence that Britain is getting this wrong. I think all the evidence suggests it is an area where this country has got it right.

Baroness McFarlane of Llandaff

135. I would like to transfer the discussion in a totally different direction because you seem to have concentrated a great deal on product development and testing; yet I wondered if with your interest in the Office of Health Economics you did not see a need for other kinds of Health Service research as well as this straight product research?

(Mr Taylor) I think the task of the pharmaceutical industry must be to focus on what it is good at, and what it is good at is taking research ideas generated in academia, looking at the whole demands of the market, of course, all the work of the epidemiologists, all the work of the Health Service plus the observed behaviour of the prescribers in the marketplace, and itself building the information into the research process and producing the medicines. Where I think you are totally right is that medicines can only be used to their full effect in conjunction with proper caring services, and in conjunction, in my view, with proper prevention. I think that must hinge at the end of the day on the integrity of the actors in the system. The solution therefore is not structural; I think it is about each person in the industry having a professional commitment all the way through to make it genuinely part of health care. I think from the point of view of the managers they must produce new effective medicines as rapidly and effectively as possible within a sane, proper framework.

136. So the effectiveness of those other services is relevant. Would you see yourself as having a part in funding research in that area?

(Dr Wells) I do not think that is somewhere where the industry would actually go along with funding other parts of industry, nor would it be expected to be funded by other parts of industry itself. I think that we happen to be involved—Mr Taylor is closely involved—with it. The advertising campaign at the moment "Look after your heart" has had some interesting repercussions, shall we say, but the *raison d'etre* behind it was to say the pharmaceutical industry absolutely is not wishing to be seen as a money-grabbing industry wishing to produce vast quantities of pills and capsules; it is saying health is something we are striving to achieve, we are actually spending quite a lot of money promoting that. We have therefore had close links with the Health Education Authority. That is indeed something we have been quite committed to recommending. The Association is concerned. We persuaded individual companies to fund projects which the HEA—in the past the HEC—are doing on a relatively small scale very much to show we are supporting the whole concept of health, not just treatment of illness.

(Mr Taylor) I am sorry—I was slow at catching the thrust of your argument. If we earn money from the National Health Service, and then take it upon ourselves to decide we will fund this piece of fundamental research or that piece of health care development, if we do that on a large scale we would have to reflect that in the cost of what we sell to the National Health Service, to the Government. We could then in a way be accused of expropriating the proper authority of the state. The pharmaceutical industry could gain the power then to direct all the fundamental research or development of health care and at the end of the day you, the consumer, would be going to pay for that. I suspect the consumer would want to do that through the government rather than through us.

Lord Taylor of Blackburn

137. Have you any direct representation of the industry on the HEA?

(Mr Taylor) No, we have not.

Lord Rea

138. Could you tell us about that little "brush" which happened as a result of the "Look after your heart" campaign? That sounds an interesting one.

(Mr Taylor) Is this on the public record?

Chairman

139. Yes.

(Mr Taylor) Then I will take it quickly. First of all there is the Meat and Livestock Commission, funded by the Government I understand to the tune of £30 million a year, which wrote to defend the interests of the meat industry I believe because we said in our advertisements that you should not use animal fat if you can use vegetable fat. Perhaps we should really have avoided that and said "saturated fatty acids" but the message was communicated fairly clearly. They took deep exception to the use of a pie—a claimed meat pie—shaped like a coffin. I was concerned with the shape of the pie, I had no particular thoughts about meat when I approved the advertisement. The other minor clash we had was a court action taken against us by Guinness in the last two days, so I must be extremely careful what I say. In a television advertisement we had a

[Chairman *Contd*]

shot where people were drinking and eating and they were watching sport on television. The television advertisement said if you wanted to avoid heart disease you should not smoke, should eat less fatty foods, and take the exercise yourself rather than watching it on television. I have paraphrased it. They were at one point drinking a dark liquid which Guinness suggested was immediately identifiable as Guinness. Why they thought it was, and why they believed it in the first place is beyond me, but my experience was being 'phoned over the weekend saying an action was going to be taken against me personally. In fact, they sought an injunction against ABPI in the end, and this failed.

Lord Rea

140. All this as a result of indulging in an advertisement that was not going to be directly profitable?

(Dr Wells) Absolutely.

141. To follow on from that and Baroness McFarlane's question, could I ask how much pharmaceutical industry money goes towards the non-profitable parts of research—fundamental, or prevention? Through what means is this allocated and are there charitable trusts—in fact, I know there are—set up by the drug industry? How does the funding for this type of research relate proportionately to the amount directly related to product development?

(Mr Taylor) I do not know whether it would all be called charitable if one is thinking about the link with the Health Education Authority.

Lord Flowers

142. Research contracts too presumably?

(Dr Wells) The sort of trusts that Lord Rea is referring to are the Wellcome Trust, the ICI Research Trust, and Leo, a Dutch company, have a research trust as well. There is an individual company policy. The Wellcome one was changed when Wellcome went public, but still 20 per cent of their profits go to the trust, but I may not be accurate on that figure. Company policy as far as individual trusts are concerned is that they are administered by individual trustees, they must be. The policy of the trust is to allow the money in the trust to be administered. There is that allocation of allowance to them. As far as the funding of the sort of exercise to which we have just been referring is concerned, that comes out of our own subscription income from member companies and a certain amount is related to the public relations budget.

(Mr Taylor) We must not mislead you, Lord Rea, this is a very small exercise. There is no research linkage between the industry and the HEA. Do not let us exaggerate. That is one particular exercise we did which was important, linked to the "Look after your heart" campaign. Generally it is said that the pharmaceutical industry research programme breaks down to 10 per cent fundamental, perhaps 20–30 per cent intermediate and 50–60 per cent development. In principle it would seem to me that the job of the industry is to spend its money on the development of products rather than to invest in blue skies research, although it may be of value. If you want to keep high-quality staff they may expect to spend a proportion of their time on pure research, but the task of the industry, and what it should be charging the community for, is producing new medicines which can be applied. I do not think the task of the industry is fundamental research *per se*.

Lord Perry of Walton

143. You said a little while ago and in your paper that you left the basic research to come out of the universities. You must be aware, as I am, that the pressure on the universities has become extreme and the pressure to be a success, so is there not a case for re-assessing the position you put in your paper?

(Mr Taylor) There are two points. First of all, basically we believe we contribute to fundamental research through our contribution to the economy. That is how we fund this.

144. It does not really go there.

(Mr Taylor) Certainly a feature of policy is the fear that in the past Britain was too altruistic. We still spend money on research but there is perhaps a national government decision to move the whole economy more into other areas, more into the area of actually earning the money than generating the original ideas. That is something to be discussed in Parliament, not to be corrected by the pharmaceutical industry.

Lord Rea

145. That is arguable because I would have thought if you are defending an £850 million contribution to the balance of payments you have a very strong case for taking a decision on your own without passing the buck back to Parliament.

(Mr Taylor) If we were then paying for that (that is fundamental research) and charging it in large volumes to the NHS, I think our position would be unsustainable in large volumes. What we must say is that we believe that a strong British fundamental research presence, particularly in the medical research area, strong universities, strong research councils, a thriving community, not only generates new generations of researchers who can work in our domestic industry but creates a critical mass of intellectual activity round it, making the research activity important and significant in the United Kingdom. So we must add our voices to those who wish to defend appropriate funding. I do not think the industry can take on the task of meeting Government shortfalls by charging more to the NHS. I think this would be rumbled.

Chairman

146. Do you have a view on the state of our fundamental work as related to the need, as an item of priority?

(Dr Wells) I think the industry certainly feels there is not enough money spent on basic science in

[Chairman *Contd*]

this country. We certainly support those in academic departments who are seeking a greater proportion of the funds available. Most certainly that is the view which the industry takes.

147. Are you thinking of the funds going to universities or the MRC?

(Dr Wells) MRC, UGC—both.

Lord Flowers

148. I think I am right in saying that in general in the United States the industry contributes a greater proportion of the cost of fundamental research than is the case in this country?

(Dr Wells) Yes, I think this is true.

149. In general—and I do not know whether this is also true of the pharmaceutical industry in the United States—does it also contribute more than you do towards fundamental research?

(Dr Wells) I cannot answer that. I do not know.

(Mr Taylor) I do not know. What we can say is that relatively the British industry contributes far more to the overall research spend in the United Kingdom than the pharmaceutical industry in the States does, because other people spend more in the States on core research. We are poor research spenders.

Lord Perry of Walton] I think the proportion that pharmaceutical departments of universities in the United States get from industry is higher than in this country.

Lord Flowers] That was my suspicion. And our witnesses implied that in spite of their generosity it was not actually the job of the industry to support fundamental research.

Lord Perry of Walton] I do not like that.

Lord Flowers

150. I wondered on what specific basis you made that categoric statement?

(Dr Wells) There is a very considerable amount invested by the industry in the development of drugs as opposed to basic research. In departments of academic medicine or academic departments generally, because obviously an enormous amount of the development of a drug takes place in academic departments, it may be they do not feel they are supported enough by industry, but there is a great deal of money which comes from individual companies to academic departments of medicine and also in the National Health Service hospitals, to a certain extent, for the development of drugs; in other words, the volunteer studies and then the trials themselves are conducted to a very considerable extent in outside hospitals and academic departments and it is there where the major investment from the industry comes to academic departments.

Baroness Warnock

151. Is this a matter of contract between the industry and the university?

(Dr Wells) Sometimes it is also the funding of individual posts and there are problems there in the quite different context of medical manpower, but there will be funding of research posts, both medical and scientific, as well as contract working for the conduct of trials and the provision of equipment.

152. Could I ask about confidentiality. If the work is contracted out to the university and carried out in the university laboratory, is it part of the contract that this work should be kept confidential?

(Dr Wells) Yes, this will be a requirement to have such a protocol and such clinical trials passed by an independent ethics committee, which is important. There will be implicit in the approval of the protocol a commitment to maintain confidentiality.

Chairman

153. You refer to manpower on page 11 of your report, when you draw attention to the manpower shortage in medical research and the fact that medical research registrar posts are being phased out. Would you like to develop that thought a bit more for us?

(Dr Wells) Yes. There was an initiative which was set up jointly by the Joint Consultants Committee, the Joint Committee of the British Medical Association and the Royal Colleges, on the one hand, and the DHSS, led by the then Minister for Health, Barney Hayhoe, to look into the way in which the medical manpower equation could be made rather better, and at the moment there is a log-jam at a certain level, which is probably most manifest at senior registrar level, whereby doctors who have spent many years in training cannot achieve a career post, a consultant post, because basically there are not enough consultant posts for the number of doctors in training. The report produced by that working party suggested there should be a phasing-out of some posts so that the pyramid was a smoother one, so that there were fewer house officers and senior house officers waiting for registrar posts and fewer registrars waiting for senior registrar posts and fewer senior registrars waiting for consultant posts. By a number of means it was suggested this should be improved, including basic consultant expansion in certain specialties, but the problem has been that there have been too many registrars in the basic registrar posts as opposed to senior registrar posts, many of them funded by industry as research registrar posts. My own personal view is that so long as those posts are included in the equation there is no reason at all to think they could not continue to be funded by industry, so long as it is known they are there and that the posts where there is a need for registrars to be involved in research are given priority so that it is not those which are phased out. It is a problem of manpower in the NHS, which is not what we are primarily talking about, but I believe the particular

[Chairman *Contd*]

solution which was envisaged in the working party report was that a number of research registrar posts which might, on the face of it, appear to be supernumerary to the National Health Service were the ones which should be phased out. I think that, if we allowed that to occur unchallenged, it would be very detrimental to the continuation of developmental research for pharmaceuticals.

154. Have the industry made their views on this issue known to government?

(Dr Wells) The dialogue on this is occurring at this very moment because the programme for the implementation of that working party report is going somewhat slowly. Yes, we are making that view known, essentially making it known, actually discussing it with professors of clinical pharmacology tomorrow and the Royal College of Physicians, because the President of the Royal College was actually on the working party. Our support for research is being made widely known.

155. To whom do you make that known?

(Dr Wells) The implementation of that working party report? I only know the personal name of the predecessor of the person in post now. It is at the Department. It is the Manpower Division, Pl, DHSS.

156. To the DHSS itself?

(Dr Wells) Yes.

(Mr Taylor) As a point of clarification to Lord Perry and Lord Flowers which is important, I certainly was not meaning when I used the words "fundamental" and "non-fundamental" that the "fundamental" research work is defined as that being done in universities and that we should not fund it. What I was trying to distinguish between was that research which has some definable purpose in mind—some practical application—and as such can appropriately be market-driven (that is what managers in the pharmaceutical industry are about) and the completely open-ended blue sky research, which is uncertain and would have to be assessed, which the pharmaceutical or any other industry would regard as something to which to make a charitable contribution. So I am certainly not trying to say the industry should fund no research in universities.

Lord Perry of Walton

157. I did not take that point. All I was considering was blue skies research, but if basic research should fail to continue in sufficient volume there will cease to be the ideas that you can apply yourself to. Somebody has to fund it. The question is, if it does not come from one source, can it come a litte more from another?

(Mr Taylor) I gave a lecture yesterday or the day before with Joe Collier, the well known critic of the industry. He was saying, "It is terrible, often I go to medical schools and people are financed by the pharmaceutical industry, the industry has its tentacles everywhere. Isn't this disgusting?" If we were to extend our funding into fundamental areas there would be those who would say the industry was expropriating the rights of the government and the people in universities to determine their own direction of activity; if we funded it we would only be funding it out of money earned from the community. So really you are saying, who should be the director of those resources? When you are telling me the industry should be funding fundamental research you are saying money should be allocated from the National Health Service to us to put back in the universities. I was trying to say in some areas it might be better if government grasped the nettle and funded directly.

Chairman

158. If there was a feeling—which there is in some quarters—that the Government should do less and private enterprise should do more, that would not necessarily be against the public interest?

(Mr Taylor) All our earnings in the domestic market, unless you are going to privatise health care generally, or the majority of our earnings come via the National Health Service and we have to bear that in mind. We make other earnings from foreign trade and things like that, but even so, much of that would be purchased by governments, so this divide between privately generated and publicly generated money could be questioned by some authorities.

Lord Flowers] I think one has to acknowledge that there is a battle of wills going on at the moment, the Government saying—and it has a perfect right to say so—that it wants to see industry paying for more of the research done in this country, including some of the basic research, and industry saying "That is not our concern, we are not going to". There is a big battle going on—a conceptual battle—about whose responsibility it is to pay for research.

Lord Perry of Walton

159. The poor academic in his department with the tentacles which Collier referred to paying for applied research which could be done in the company but is being contracted out, so more and more of the research done in the academic departments is becoming applied: from both sides the pressures are the same.

(Dr Wells) The applied research is involved with patients. There are no patients in the companies. We actually do research, but that has got to be done there. Just to take Lord Flowers' point, we do not want to flog the PPRS but I believe a fundamental variation of the PPRS could certainly be discussed which would enable companies to channel more of their resources into fundamental research. I do not think the industry would necessarily be averse to discussion on that, but at the moment the PPRS being what it is, that is an agreement which has meant the profit which is being made from the National Health Service is something determined in the negotiations with the Department of Health.

Lord Erroll of Hale

160. I would rather like to put it the other way round, that possibly one could consider that the National Health Service, or the Government, should directly finance some research work which would otherwise be done by the company to the effect that, if there is successful development, then the profits can be fairly bid and the money comes back through the payments for the drug from the National Health Service or whatever. It would surely help the Government's spending if they only paid what it actually cost to do research rather than paying what might in the end be much more through paying for a successful drug over a very long period. Has that approach been considered? I am trying to think of a parallel with some defence projects where the research money is found by the company and the company is contracted to carry out the research. That is cheaper for the Government than merely paying through a price tag for research which may be an overpayment.

(Mr Taylor) I think with respect, if you take the performance of the defence industry and the expenditures made by governments, that hypothesis of separating research funding from market funding could be questioned. The fact is, if a pharmaceutical company spends a lot of money on research which produces products which are no good to anybody and do not do what they wanted them to do in the first place, it goes bust. That is a very powerful motivator. If you got research money to do research with no market linkage, if might be that we just produced a series of white elephants which the security services would have to cover up.

(Dr Wells) There is a precedent for central co-ordination of research work in the health service in the USSR, and pharmaceutical development in Russia is decades behind the development of the pharmaceutical industry in the Western World. This is a classic example of where government-directed research, for several different reasons, might have been said not to have been as successful as Western research: but the fact is that the track record for industry-sponsored initiated research is far, far more successful than that in countries where it has actually happened or has occurred so far.

Lord Rea

161. In the particular field of pharmaceutical production?

(Dr Wells) Indeed, absolutely.

Lord Erroll of Hale

162. I am not necessarily advocating such a course. I just wondered if it was an alternative route that had been considered and what your attitude was. I would not necessarily wish to be associated with that type of funding.

(Mr Taylor) When you have a demonstrable market failure—I am sorry to hark back on this—where the market cannot support research, then I think there is a moral duty for the community, whether a national community or the global community, to do something about it. I think the only area of pharmaceuticals where in my professional experience I have personally been worried that there is a market failure is not in the British community or the European community but in the community of Africa, Asia and Latin America. There you do have, I think, a problem. Of course, there is the WHO/UNDP/World Bank initiative in tropical disease research and training and I wonder whether Europe could be thinking of something in that particular area. There I think you have a stronger case for that sort of defence industry model of research by tender.

Chairman

163. In your report I am not quite sure what you mean when you refer to "supra-market funding mechanisms" (page 19). What is a supra-market funding mechanism?

(Mr Taylor) That is me being rather complex. Whenever I read my prose I always get acutely embarrassed. What I meant is a funding mechanism over and above the process of the marketplace, an alternative to the process whereby you develop pharmaceuticals for relatively few people in a country like this where the companies know they will get their money back if their product is what is needed, especially when you have something like the NHS, which should level out the differences in people's wealth. Where people can choose and have a fair amount of money, then I think the market for pharmaceuticals works very well. Where you have millions of very poor people suffering terrible health problems, where it is possible that you might be able to develop cheaper varieties of drugs but the companies are very sure they will never be paid back, then there might be a role for the governments of the rich world or agencies like the European Community to try and do something about it, and we do have the model I have just mentioned.

164. So you see the World Health Organisation and the European Economic Community or some other of these——

(Mr Taylor) There is an amount being spent—to my knowledge about £30 million per annum—on UNDP/World Bank/WHO activities in this area. Whether or not there is a proper role for this country is an open question—we tend to think of foreign aid as financing dams somewhere but maybe we should think about putting our money into research investment to develop the tools for better health care.

Lord Erroll of Hale

165. In your paper you outline a cumbersome mechanism but we have our own ODA, which has a funding activity. Why should they not fund the fundamental research into Bilharzia, for example?

(Dr Wells) That is much more of a problem because there *are* treatments for Bilharzia, which is a killer disease. The problem exists in the distribution of supplies rather than in research because, as I

[Lord Erroll of Hale *Contd*]

said in answer to Baroness Lockwood, I find it surprising how much research is actually going on in the United Kingdom into products which (a) will have no market at all in the United Kingdom because they are not for United Kingdom diseases and (b) are unlikely to be very profitable because the countries themselves that have the diseases cannot afford to pay for the drugs. I do not think the Government is necessarily being under-philanthropic by not making those sorts of drugs freely available on a massive scale. They will have to be paid for.

166. They could be paid for by sending drugs instead of food supplies, for example?
(Dr Wells) Indeed.

167. Could you name a malady where they might?
(Dr Wells) Schistosomiasis.

Lord Erroll of Hale] I thought you said Bilharzia was covered.

Lord Perry of Walton

168. I think that is a nice idea but you have to remember the awful post-war study or during-the-war study in the United States where they spent millions upon millions for a replacement drug for malaria and found nothing at all. I remember going through three volumes of the work undertaken. That was done on a defence contract basis and it produced nothing, and the one success was in ICI, who found it by accident. This directed research of this kind for a Third World problem on that scale is quite likely to be completely negative.
(Mr Taylor) I do not think it is especially a Third World problem. I should remind the Committee that directed research in general is undesirable. But if you have an area where there may be a case for it, albeit it is demonstrated to be inefficient, that is the area I would look at. Third World health care is a very difficult area and all I am saying is that if there is any case for new forms of research funding that is where I would look.

Chairman

169. Does the pharmaceutical industry receive much research funding from these world bodies for problems associated with the Third World?
(Mr Taylor) No. As I say, the total UNDP/WHO/World Bank spend is about £30 million and I think we probably put in more in terms of giving time and donations to them, so it is not a significant source of income for the pharmaceutical companies.

Chairman] Who funds the work of the School of Tropical Medicine? I am told by the Adviser it is the University of London. That would come under the UGC, would it, or MRC or what?

Lord Flowers] Chairman, it is not the first time I have had to tell you that I am not one of your witnesses, but the London School of Hygiene is, of course, funded through the University of London with UGC-derived block grant, but it derives a very high proportion of its income from the Medical Research Council, the medical foundations and I am sure some of it directly from the industry as well.

Chairman] And some from the international bodies?

Lord Flowers] I am sure.

Lord Perry of Walton] And overseas fees?

Lord Flowers] Of course—all the usual mix.

Chairman

170. And would the industry be working with the School of Tropical Medicine?
(Dr Wells) Yes, there are some companies which are most certainly working with the School of Tropical Medicine.

Lord Perry of Walton

171. Certainly there is an interchange of personnel between the Wellcome Trust and this group of people who have worked in both places.
(Dr Wells) That is right.

Lord Flowers

172. Can I change the subject completely? I do not feel we can let the moment pass without having a few words about animal experimentation. Let me say at once I am sure everybody in this room is, of course, wanting to limit the suffering of the animals. At the same time we know that new drugs and things of that sort cannot possibly be developed or at any rate evaluated unless there is some measure of animal experimentation. To what extent are the activities of some people who believe in the absolute cessation of animal experimentation holding up the search for new drugs and getting them onto the market and whatever?
(Dr Wells) They are a great nuisance but it is a nuisance value rather than a fundamental inhibition on research. There is a great deal of animal based research, research which requires animal studies to be done. It is occurring and I think, given the standards which any unbiased, independent observer would feel should certainly be upheld wherever animal experimentation is taking place within the industry, I can tell you with a fair degree of confidence that, given that those standards are being upheld, I have not found any evidence of research being held up because of the activities of animal activists.

173. I know there are Home Office inspectors who inspect activities of that sort but as an Association do you have any means of checking up for yourselves that your members are behaving in what you would consider to be a reasonable manner?

[Lord Flowers *Contd*]

(Dr Wells) The ABPI does not have an inspectorate as such, nor does it actually police it through a code of practice. There is no regulatory inspecting mechanism as such that we operate but we perhaps do rely on that happening from outside.

174. Do you draw up mutual guidance, hoping your various members obey it, even though it is only guidance?

(Mr Taylor) Absolutely. There is guidance, which is also made public, about what we do. We have established AMRIC, Animals in Medicine Research Information Centre.

(Dr Wells) That is making known outside the standards which we expect the industry to uphold and it is something which I have not seen in the many visits I personally have done and also in discussions with colleagues there has been no reduction in standards at all. I think we actually uphold the highest possible standards of care for animals involved in research. I am actually very impressed by what I have seen in a high learning curve over the last seven months.

175. From your contacts with other laboratories, such as the MRC, the universities or wherever, is it your impression that that would more or less apply to them as well?

(Dr Wells) Yes, I think the standards are comparable in animal care in research. The care of animals involved in research in this country is of a very high standard.

(Mr Taylor) From a public affairs viewpoint in the pharmaceutical industry we are extremely vulnerable as an industry if we do anything wrong. For example, if we advertise wrongly, the risk of public exposure is very great. And were anybody working in an animal house in a pharmaceutical company concerned about something, were they to report it to a newspaper you could be sure it would be a page one story overnight. The companies have to be very careful not to give rise to any concern with their own staff which would render them vulnerable. That would cost them public demonstrations, bricks thrown through the window. It would cost them money and loss of their good name. So as well as any humane concern for the safety of people and the welfare of animals, there are sound commercial reasons for the industry to try as hard as possible not to have any reason for its critics to be justified.

176. You would not be showing pictures of rats drinking black liquids?

(Mr Taylor) There are not any.

Chairman

177. Time is marching on. Are there any other points the Committee would like to make to our witnesses this afternoon? I would like just to clear on one thing which I do not think has been touched on, the balance between medicines for curing diseases and medicine for preventing diseases. How do you visualise your role in either preventive or curative medicine? Do you take a conscious decision on this question?

(Dr Wells) It is controversial in the industry inevitably. It is quite clear that where it is appropriate for the treatment of a particular condition prevention is manifestly better than cure—something where prevention is possible with the help of therapeutic research, that is something the industry goes very strongly in favour of.

178. You would make the priority of your research to that end?

(Dr Wells) The controversy is about research into vaccines, for instance, because they do themselves have inherent problems and the way in which research into vaccines has been conducted is itself very expensive and not necessarily cost-effective. It is also extremely difficult to ensure the safety element relative to their efficacy in the way you can perhaps assess safety relatively to the efficacy of drugs involving treatment. Given there is a commitment to support——

179. It is a longer process?

(Dr Wells) Yes. Given the commitment to support preventive medicine, most certainly the industry is behind such research and development and production.

180. Would you have any views on the priorities within the national programme as between curative and preventive?

(Mr Taylor) From the economic viewpoint there is a problem here. It is a stupid man who pretends that the machinery is always working perfectly. A petrol engine may be 75 per cent inefficient, but it is still one of the best engines we have got. In an area like vaccines not only is there the problem of lack of patent protection, but there are difficult research problems as my colleague was suggesting. And there is the fact that once you develop a vaccine it is something somebody else can copy cheaply and, used once, may wipe out the disease for the consumer. But preventive medicine in the sense of controlling blood pressure means the consumer uses it time and time again. There is a bigger economic incentive in some areas of prevention than in others. I think that we have to look at that and make sure the incentives operating on the industry are appropriate. If they are not, then one must look at the structure of the marketplace. If, for example, more vaccine research is needed, this can be achieved by giving greater intellectual property protection so that prices can be maintained, etc. and this is what should be done. I am not qualified to go through the entire market area or even to talk about vaccination and if the incentives should be changed. We should realise these variables are policy areas where there should be adjustments relative to national priorities.

(Dr Wells) There is a significant amount of preventive research occurring at the present time. Wellcome is one particular company which has a policy of pursuing such research.

[Chairman *Contd*]

181. Are there any other points you would like to make to us before we close this session?

(Mr Taylor) The Clerk, with great efficiency, gave us a list of questions which we might be asked. One of those he mentioned was that, if the British research community outside the industry were to be "deskilled", then obviously the outlook for British industry would be bleak. You asked if there was evidence of this happening as far as the pharmaceutical industry is concerned. There has been some discussion, which again I am not qualified to judge—I am sure my colleague knows more about it than I, about the possibility that somehow research done for the pharmaceutical industry in universities is being questioned.

(Dr Wells) Yes, that is true. It would appear that recruitment into the specific posts as opposed to medical posts in industry, and also into posts in basic research outside industry, in academic departments, of scientists who would be involved in basic chemical research and biochemical research is facing increasing difficulty. This is not happening on the medical side. The medical equipment is adequate at the moment.

182. The scientific side?

(Dr Wells) The scientific side. There is evidence of increasing difficulty in having the right calibre of person able to be recruited. That could be a potential problem in the research and development.

183. Your concern here is more as to numbers rather than the quality of the training?

(Dr Wells) Oh, yes—at the moment yes.

184. I think another point you made was as to the question of training of researchers?

(Dr Wells) Indeed. At the beginning it was discourteous of me not to thank your Committee for inviting us in the first place. We are very grateful to you, particularly for the time you have given us in allowing us to give evidence to you. We appreciate the courtesy extended to us in letting us come. Thank you.

Chairman] Thank you very much for giving up your time and also for your valuable contribution both in discussion and in your document.

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HOUSE OF LORDS SESSION 1987–88

MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

Thursday 2 July 1987

THE WELLCOME TRUST
Dr G Smith, Dr P Williams and Dr Ogilvie

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THURSDAY 2 JULY 1987

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Erroll of Hale, L.	Perry of Walton, L.
Flowers, L.	Rea, L.
Hunter of Newington, L.	Sherfield, L.
Lockwood, B.	Smith, L.
McFarlane of Llandaff, B.	Warnock, B.

Memorandum by the Wellcome Trust

1. DESCRIPTION OF INVOLVEMENT OF THE WELLCOME TRUST IN MEDICAL RESEARCH. OUTLINE OF PROGRAMMES AND PRIORITIES.

The objects of the Trust are to support research in the biomedical sciences and in the history of medicine. The Trustees support academic staff in universities, medical and veterinary schools and other institutions of higher education, engaged in all types of research—from the basic sciences related to medicine to the clinical aspects of medicine and veterinary medicine.

The Wellcome Trust is the most richly endowed of all charitable institutions funding medical research in the United Kingdom. In the *two year period*, 1983–85, the Trust made grants totalling £39,781,954 and the budget for the year 1986–87 is around £35,000,000. The income of the Trust is likely to increase in future years, following the recent sale of some of its shares in Wellcome plc, the recently formed holding company which owns the international pharmaceutical company, the Wellcome Foundation Ltd. The Trust now holds about 75 per cent of the issued share capital of Wellcome plc.

Because of these resources the Trust is able to play a vital role in the funding and direction of biomedical research in the United Kingdom, the tropics and some countries in the commonwealth. The present state of government financing of medical research has made the activities of the Trust even more significant.

2. HOW ARE PRIORITIES FOR MEDICAL RESEARCH SET? DO THESE REFLECT THE PARTICULAR NEEDS OF THE NHS OR, MORE GENERALLY, THE HEALTH NEEDS OF THE NATION?

Priorities arise in two ways:

(a) As a consequence of consideration of applications that are made to the Trust for support. These are selected on scientific merit with the assistance of expert referees and panels and hence one could say that one priority is to ensure the highest quality for research undertaken.

(b) In addition, there are certain fields which the Trust has selected for suppport. These are related either to the terms of Sir Henry Wellcome's will, for example tropical medicine, veterinary medicine, history of medicine, or because the Trust has identified that it can make a special contribution because they have not received the scientific attention they warrant possibly because of some peculiar factor such as isolation from the mainstream of university science (for example mental and infectious patients were treated in isolation from the rest of the medical community).

(c) The Trust does very little for cancer and heart research because other substantial charitable funds are available.

While the particular practical needs of the nation of the NHS are not the basis for the selection of priorities, the sheer identification of a subject as neglected carries with it the fact that scientifically neglected topics are those in which the treatment or prevention is empirical and could be improved to the benefit of the health of the nation if they were better understood. This is particularly true, for example, for skin diseases and mental diseases.

The Trust allocates a considerable proportion of its income to basic biomedical science since it considers that strength in this aspect will be the foundation of improvement in clinical care.

3. IS THE PRESENT BALANCE BETWEEN THE DIFFERENT BRANCHES RIGHT? ASSUMING RESOURCES LIMITED—WHAT PROGRAMMES MIGHT BE CUT BACK TO ALLOW HIGHER PRIORITY TO EXPAND? WHAT PROGRAMMES NEED HIGHER PRIORITY? WOULD PRIORITIES CHANGE WITH HIGHER RESOURCES?

As mentioned in the previous section, the priorities tend to be led by the applications submitted for consideration—in other words, the activity of the university community. This drive can lead to neglect, but it is often very difficult to identify ways to promote neglected fields if the methodology for their development is not at hand. It is the Trust's view, however, that given a sufficiently long-term view, the introduction of more high quality research workers to neglected fields through special fellowship schemes, and inducement to apply for support in a field can form the base on which it can develop when the time is ripe.

The Trust does not see any evidence that any particular fields are sufficiently well supported to warrant cutting back support to them. If resources are limited presumably those projects of the highest merit will be helped and those with a lower rating will not. Should more funds become available, we believe that the main value would be the quantitative increase and longer term support—short-term support tends to cause neglect of more profound research. It is not really possible to predict the source of the most original advances, although it is obvious, at the present time, that exploiting the success of molecular biology and genetics will be very productive.

Attention to the diseases causing significant morbidity in the country would be worthwhile because lack of support can only mean that individuals will not be available to develop leads when they do arise.

If more funds are available, the Trust's main emphasis would be on the provision of longer term support and sometimes for larger groupings of research workers.

4. Are priorities adapting to changing incidence of disease, population structures and new technology?

Yes, we believe that the scientific community is alive to these trends and will respond to them if funds are made available and that such funds can attract research workers to change their priorities. The recent example of the priority given to AIDS research is a good example.

There is a case, therefore, for examining how better such changes could be identified, communicated to the bodies financing research and for more directed research of the sort which was often so successful during the war and we hope will be in relation to AIDS.

5. How are priorities influenced by institutions in which research is funded? How does balance between commercial and charitable funding affect the setting of priorities by the institutions involved?

Most research supported by the Wellcome Trust takes place in universities. These institutions are, in general, more interested in the solution of significant scientific problems and do not choose the subject according to any collective conception of priorities. They do, however, require funds to carry out their programmes and hence if the source of funds is lavish for certain projects and limited for others, there is a tendency to follow the priorities of subject charities or industries that have funds for particular purposes or projects.

Too much emphasis on the commercial, if undesignated funds are limited, will inevitably lead to less truly innovative research which, in the Trust's view, is the best way to utilise the great resource of the universities.

6. Are the results adequately disseminated?

We believe that research workers are anxious to publish the results of their research and to communicate them to meetings of their peers. There is a real problem, nevertheless, that it is difficult for those who could use the new knowledge for practical purposes knowing that it is available if the publication is in a little-read journal. Referencing is so elaborate these days that someone whose job it is to seek new developments knows where to look and symposia, society meetings and abstract journals etc., are all available. It is, of course, less easy to disseminate results if a patent is contemplated.

7. How is unnecessary duplication avoided?

The process for considering what research to support entails the seeking of referees' opinions. These referees are selected for their unique knowledge of the field. One of the most frequent comments is that an applicant has failed to quote relevant publications or that the application shows some danger of repeating work already published, or known to be in progress. While important results must be confirmed, duplication is generally avoided because no-one wishes to be repetitive and the scientific community has a good knowledge of what is going on in a particular field.

8. Is research reflected in improvements in patient care, health education—if not why not?

The question does not indicate a time scale. While the Trust is sensitive to short-term problems, it does not restrict itself to these and its belief in training in scientific method—with results in subsequent decades—is a clear example.

Improvements in patient care, etc., can only result if there are enough properly trained individuals who have received a dual training in clinical medicine and scientific research. These crucial individuals take time and money to train and can only function properly in a medical environment where there is a proper balance between time available for the practice of clinical medicine, teaching and for research. Academic departments of medicine which should provide this environment have been severely damaged by a number of changes recently, each seemingly operating separately from the other. The combined effect is to reduce the manpower in these departments and increase the service load so that research is squeezed out. These individuals cannot be viewed simply in terms of the number of patients they see, but cognisance must be taken of the need for staff of this type to teach clinical students and to have between 30 and 50 per cent of their time available for research. This is stressed again in 10 below.

Examples are quoted in the recent History of the Trust, Physic and Philanthropy (Hall and Bembridge 1986), for example Dr Warrell's work on the treatment of cerebral malaria.

9. What changes in priorities in training of researchers are needed?

The question, as with most posed in this document, assumes that all is fundamentally well in the research environment and assumes that there are enough research workers being trained and that the problem is their management. Would this were so! It is our opinion that there are now insufficient new scientists being trained to the post-doctoral level for the country's needs. Therefore, the first priority is to increase the numbers being trained. Given that individuals need to be trained by established workers undertaking research at the cutting edge of their subject, such trainees are more able to adapt to new advances.

Another requirement is to verify that the quality of supervision and training given by university staff to Ph.D. students is of a sufficiently high standard.

10. Should any specific changes in organisation and training be made (i) to increase quality, (ii) quantity and (iii) application of research.

The main priority at present is to improve the perception of science as a career in the eyes of its practitioners. Salary level is not the primary determining factor influencing the best scientists: it is the availability of facilities combined with the right atmosphere for undertaking research that good scientists seek. Therefore, the main priority is to put science and tertiary educational funding on a satisfactory and predictable footing in order to persuade good people that they have a worthwhile future. This also means that the age structure of university staffs need improvement as that influences atmosphere so profoundly.

In particular, the situation concerning the training of clinical scientists is extremely serious as mentioned in 9 above. Academic departments in teaching hospitals have been subject to multiple cuts, first from the NHS side, especially important in London where the great bulk of the country's clinical research is undertaken, and now through the UGC. The decision to limit the number of honorary senior registrar posts funded by the MRC and the medical research charities has made it difficult to envisage growth of clinical research. The various royal colleges which lay down the requirements for accreditation in higher medical training take too little cognisance of the need to train clinicians in research.

The first and most vital step is to ensure that the DHSS and the DES develop a mechanism to ensure that academic departments of medicine etc., are not irrevocably downgraded by the accident of these departments taking independent measures without recognising the cumulative effect on this crucial resource. The second is to devise a way of ensuring that the crucial role of clinically qualified medical research workers in transmitting the results of research to the bedside is recognised in terms of training, salaries and in resource allocation.

We have emphasised the clinical case as it poses special problems at the present time. There is also a strong argument for making suitable arrangements so that basic scientists can take a more active part in the application of their science to clinical research. As far as application is concerned, we consider that more attention needs to be paid to creating careers in health services research and developing new research methods for the evaluation of medical care. We have, however, only recently begun to consider this field.

Examination of witnesses

Dr Gordon Smith, Trustee, Dr P Williams, Director, and Dr B Ogilvie, Deputy Director, the Wellcome Trust, called in and examined.

Chairman

185. Dr Gordon Smith, may I welcome you and your colleagues to our meeting this afternoon. We very much appreciate your giving time to joining us for this session and we very much look forward to receiving evidence from you in this enquiry which we are conducting into medical research. I might say you are the first witnesses to come before us who represent a medical trust and that makes it doubly interesting. May I also thank you for your very useful paper which is very helpful to us and gives us both background and a summary of your

[Chairman *Contd*]

views. Is there anything you would like to add before we start the questions?

(Dr Smith) I do not think so, my Lord, in the sense that you kindly sent us a list of questions and I think these cover the ground if these are the questions you are going to ask us. We are, of course, happy to answer others.

186. If I might start the questioning from the chair, as I say, bearing in mind this is the first time we have had the opportunity of having a witness from the charitable field, I think it would be very helpful to us to know how you relate your choice of investment in research to that which is being done through the MRC and official channels.

(Dr Smith) Yes, my Lord, I would be happy to try and paint a preliminary picture and then my colleagues will no doubt answer questions of detail where they are in general terms much better equipped than I. I think that the Wellcome Trust sees itself as a source of research funding which is complementary to government funding and by that in terms of medical research we mean the University Grants Committee and the Medical Research Council. The Trust and the Medical Research Council try to keep each other informed about their policies and activities. When formulating our policies, I think each of us takes account of what we know the other is doing. I think that the balance of activity between these various sources is a matter which needs to be kept under review, but of course the nature of the balance varies, or should vary, depending on the area of research we are concerned with. If one moves from the most applied to the least applied, for example, one would expect a different balance of interest from these various bodies in, say, Health Service research at one end or fundamental medical research at the other. It has been suggested, I think by the Matthias Committee, that there should be some forum in which this sort of relationship could be further developed. I think that is an idea worth consideration but I do not believe such a forum would actually be very effective unless it also incorporated the other bodies who impinge on this—the University Grants Committee and the Department of Health—because what they do influences very much what we can do. The Medical Research Council and the Wellcome Trust, I believe, are complementary in a variety of ways. Firstly, they both have quite wide-ranging groups of advisers on whom they depend for advice and help.

187. Many of whom are the same people, I presume?

(Dr Smith) As a general rule we try to avoid being on each other's bodies, but there are of course inevitably overlaps, particularly in smaller fields. I, for example, have never sat on any MRC committee since I became a Wellcome Trustee, and that is right. The most important thing, I think, is perhaps that while these two bodies are complementary, they are independent, because research is not predictable in its outcome. You cannot at the beginning know whether it is going to be very good or only moderate. You do not know what its influence will be, you do not know what its applicability will be, and opinions and views will differ. So that we will both fail to identify the best occasionally and we will both mis-identify the worst, I guess, occasionally. But it is very important that people should feel that there is a safety net in that, if one has a very good idea which for some reason the Wellcome Trust does not like, one can go to the Medical Research Council. I think that is very important indeed. We see the UGC and the Research Councils as carrying the main responsibility for the nature and wellbeing of the national infrastructure in the universities and research institutes which form the basis on which research can be advanced and funded. For this reason we have avoided creating our own independent institutes and by doing so and investing in the universities we have avoided tying up our funds into large fixed establishments. This gives us a great deal of flexibility to respond rapidly to needs. When we have identified needs, for example in universities, we have tried to respond as best we can within the resources which we have. In all activities we are responding to needs; or supporting or encouraging new initiatives, which is another thing which we believe is important for us because we can be flexible. We depend on a great deal of advice and help from the numerous distinguished people who sit on our panels; and we also depend on our professional staff whom we use very actively to investigate what is happening and to keep us informed; to identify good people, initiate new ideas and bring them before us. While the trustees themselves sometimes come up with imaginative and new ideas, they are very dependent on the professional staff of the Trust and on the experts on their panels to feed ideas to them which they may or may not decide to support. I think that gives you a little bit of the background.

188. That means you are responding to ideas which are put to you rather than looking for areas where inadequate work is being done; in other words, you are backing people and ideas rather than looking at areas which are not being properly or adequately covered?

(Dr Smith) We are doing both things, but the responses are different. I am talking of the trustees and their activities as opposed to the Trust and its activities, if you see what I mean. A great many things come to us as applications for money to carry out research, and in that sense we are responding to perceived needs or perceived ideas in the world of medical research at large. But through our specialist panels in various areas and through the professional staff of the Trust we are also looking for neglected areas or at things which need to be done or new ideas which need to be taken up, and the trustees are responding to those. Thus the Trust is part of the mechanism for funding and exploiting these new ideas, or deficiencies, or neglected areas.

[Chairman *Contd*]

(Dr Williams) If I may illustrate by one or two examples, taking one matter which is very apposite at the moment, about eight years ago we decided that infectious diseases was a subject in which there was a shortage of clinical research workers, so we decided to train people in that field. That turned out to be a rather farsighted move, because these people were available when the AIDS problem developed and infectious disease specialists were needed. Similarly, the mental health field is another example where we now have a budget of £2m per annum. The programme over 10 years has trained a lot of people and is building a bridge between clinical psychiatry and the basic sciences relating to the brain, which is an essential prerequisite of future research in that field. We are continuing to identify specific areas—I used the word "neglected"—where there is not sufficient scientific input and we are not receiving applications through the post and developing them. It takes time, where there is insufficient activity in neglected fields, to push them forward.

189. Would you say there is adequate coordination between what you are doing as the Wellcome Trust, which is a very important element in the whole field, and that being done by other charitable bodies?

(Dr Smith) I will ask Dr Williams to respond to that because he has been largely responsible for creating an organisation of the medical charities with a view to further advancing this.

(Dr Williams) About 15 years ago we set up a forum called the Association of Medical Research Charities, and over that time it has largely been a group meeting to talk about what the members are doing. It was incorporated in the last month to deal with certain problems that we may come to later. That Association has some 37 or so members and between them they handle about £130m per annum of income. To say that they really have intimate knowledge of the particular projects of one another would not be true; it really is not like that, but they are very familiar with one another's interests and know one another on a friendly basis; they talk to one another, and similarly that body has its links with the MRC, because the MRC cannot link up with every one of the charities individually.

190. So, this is not an area of worry as far as you are concerned; the left hand does know what the right hand is doing?

(Dr Williams) I do not think it is an area of worry. I am not really worried about overlapping work. I think there is so much to do. You can take cancer as an example. The Wellcome Trust says it does not support cancer research. Why? Because the two cancer charities are of such a size that we think it better to leave it to them because they have the particular knowledge rather than be another fund in that area.

Lord Flowers

191. To take it a bit further, I am really interested in the way in which your criteria for selectivity—because you obviously have some—differ from those of the MRC, especially now that the Advisory Body for the Research Councils is pushing all the research councils in the direction of what you have called applicability. Dr Gordon Smith made a remark about it being difficult to predict applicability, and I agree, but the official system is working towards a greater sense of things being applicable at an early stage. That is one difference, but could you say a few words about the differences as you see them and the extent to which they are absolutely deliberate?

(Dr Smith) I do not think it is easy to give the sort of clearcut answer you would no doubt desire. Our main criterion, I guess, is the same as the MRC's, that is, we want to support alpha plus research where we can; we are concerned about feasibility and aspects like that. Very often, we receive applications which would require one million man years and somebody is proposing to do it with a man and boy over two years. Predominantly, we select certain areas which are of greatest interest to us and try to stress those areas. I expect the MRC does the same, but they probably lay different stress at different times. In this way I think we are complementary. Peter Williams has given the example of infectious disease. We also have regard, of course, to what our founder instructed us to do, because we operate under the terms of his will and he specified tropical medicine for example as one of the areas which he wished us to support. Much of tropical medicine is communicable disease of one sort or another, although by no means all, but we have joined infections and tropical diseases together and have an expert panel which not only selects things in that area but also positively promotes areas which it thinks are particularly important for the advancement of the subject. So we are perhaps more selective, although we do not exclude many things from being worthy of consideration. I do not know if Peter can expand on this.

(Dr Williams) I think I would simply say that there is a lot that is very similar. The project grant activities with the universities are virtually two choices, you go to one or the other, and I think that that is a significant part of the activities of both organisations. But the MRC, of course, has 60 per cent of its activity in very long-term research. That stability we cannot provide with more than a relatively small proportion of our funds because we do not have the resources that government provides for its institutions. We are planning to do more as we grow.

Chairman

192. If I may pick you up on that, I thought you would have more stability than government?

(Dr Williams) I always thought government was more gilt-edged than anyone else, but really what we feel very strongly is that research is a very long-term business and that the tragic thing that has been happening is that it is being supported

[Chairman *Contd*]

progressively on a short-term basis and this is the effect of charitable funding from relatively small sized funds. So the problem is not whether the sum of money available has changed but the nature of the sum of money now being provided. If you look at any of the Institutions—take the London School of Hygiene where Dr Gordon Smith is the Dean—much too high a proportion of their funds are on a short-term basis. It is that change of stability that is creating all the problems one hears about—loss of morale, career opportunities etc. It is simply that government must be the body that has the gilt-edged strength to provide the long-term stability, that research needs. You cannot expect that from small charities.

Lord Adrian

193. Dr Gordon Smith said that the Trust regarded it as the responsibility of the UGC and the MRC to provide the national infrastructure—I think that was the phrase used—as far as medical research is concerned. You are now disposing of resources which are, well, I do not know about comparable to those of the MRC, but certainly getting on that way. Do you feel that your ability to make effective use of those resources is actually now limited by the nature of the provision for the infrastructure? Are you seriously hampered or are you deeply concerned that this may be a problem in the future?

(Dr Smith) I think the short answer is yes. To explain, I think there are perhaps two areas which could illustrate this. One I will ask Peter Williams to deal with because he is more *au fait* with the nuts and bolts than I am. The one I would take up is the dual support system which in a way assumes that what I said was wholly achieved, that is, that the infrastructure of research is provided by the University Grants Committee. When you get to the situations that some institutions have got to now, and a lot of others are going to get to in the not very distant future, the amount of money available within the dual support system, that is from the UGC end, to service the operation of a high proportion of soft money for research is quite inadequate and the alleged provision of 40 per cent overheads simply does not bear examination. There is, I think, another aspect of the dual support system which really does need to be thought about very seriously: as a result of the universities having really little or no money of their own for research the academics are forced to go either to the Medical Research Council or to ourselves or other bodies, without the ability to carry out the preliminary research which would make their applications sound and well based. I think this is a very unsatisfactory situation for the universities who are unable really to create a policy about research because all the decisions about what they can do are taken elsewhere. It also gives them very little money to promote the early stages of research which would make the work of the trusts, foundations and the Medical Research Council much, much easier and more effective because they would be seeing proposals when the research was partially developed. So I think that the dual support systems should not only be sufficient to maintain the basic nuts and bolts which enable research to be done but should go further. The other option which has been proposed in the past was to take the money away from the UGC and give it to the Medical Research Council, then it could provide overheads. That I believe would be extremely counterproductive for the universities because if they are going to be effective they do need this little bit of money which enables them to take initiatives of their own, and to push research forward sufficiently to make a credible application to an outside body. The other area which I think important is the clinical area and I think Peter can say a word about that.

(Dr Williams) If I could just say one word first, I think the universities in a number of instances are becoming run down too far; they really have not got the capacity to ask for the money available as grants and, if you add on to that the fact that it takes a great deal of time to apply for these sums of money—preparing an application, accepting a fifty per cent failure rate—the university staff is actually spending a lot of its time seeking money instead of getting on with its job. So I think this may again illustrate the danger of moving from long-term to short-term. Now, if we take the clinical side, I think their research is in real trouble because any clinical academic must also look after patients and teach, and the care of patients must have priority in his activities. So when the staff in a department falls below a certain size—and that size is affected by both the National Health Service and the university contribution—suddenly the whole structure collapses and nobody can do research, because it is impossible to do research in an hour taken off here and there between seeing patients. So in order to support research in clinical departments it is necessary to provide extra staff to do ordinary work. So I am bound to say that the cut-back on the clinical side is even more damaging to research.

Chairman

194. This is cut-back in the National Health Service?

(Dr Williams) A bit of both. You see, the clinical academic departments have less money along with other academic departments, but clinicians care for patients as well as doing academic work, so there is a knock-on effect, but if the Health Service is also reducing its staffing the load falls on to those who are left behind even if the staffing reduction is in another department. The reduction may not be in the professorial department of medicine or surgery, it could be the National Health Service department, but the work of the hospital still has to be undertaken.

195. This is where National Health Service policy is impinging on the research programme, is it not?

(Dr Williams) Yes.

[Chairman *Contd*]

196. Would you say that you have sufficient opportunity to influence or participate in the National Health Service policy where it is going to affect research?

(Dr Williams) I do not know that I want to participate in NHS policy, but I must tell you an instance of something which has happened in the last two years which illustrates the need for consultation. The NHS, I think not unreasonably, decided there had to be the right number of people in training for the consultant posts which would be available. Therefore, they wished to limit the number of senior registrars, and now registrars. Some of those people would be doing research on honorary contracts, because that is how you are accredited to do clinical research; there are honorary contracts for those supported by the charities or the MRC. The Health Service asked the MRC how many people it had on these contracts and they said they had 50 or 60, but the DHSS did not ask the charities who had more than 100. They were setting up a system but had forgotten or had not realised that in fact funds for research which required honorary contracts were provided from sources other than Government-funded bodies. This illustrates that the Department of Health needs to recognise the activity of the private sector.

197. Were you able to intervene and say, "You have forgotten us", or did they just find out?

(Dr Williams) They made a quota which did not mention the charities. We appealed and managed to get observer status on their body, called JPAC. Now we have 100 honorary places, but we could have had none.

Baroness Lockwood

198. To follow up that point and go back to something said earlier, it seems to suggest there is no coordination at national level between what is going on within the Health Service and the university side and the charitable organisations; otherwise, they would not have made this plan purely on the basis of the National Health Service list?

(Dr Williams) You may well be right, but the body to whom the National Health Service referred was the MRC, and the MRC told us what was happening because we had good links with them, but the NHS never asked us.

199. There is no mechanism by which you can contribute in future if similar kinds of plans are being made?

(Dr Williams) We now have observer status on the advisory committee through the Association of Medical Research Charities. Frankly, we created the Association as a corporate body so as to be able to look after this problem.

200. So, it would enable you to have an impact?

(Dr Williams) Yes, for that particular aspect there is a body.

201. May I turn to something you said previously? You were referring to the lack of stability in the universities and suggesting this might lead to less qualified applications coming forward. Is there any evidence, on the basis of your applications, that this is actually happening, and is there any relationship between that and the previous statement you made that you were looking more seriously at going into more longer-term-funded projects?

(Dr Williams) I do not think we can say that the quality of the applications—is lower as a result of lack of stability in the universities. All we can say is that about 50 per cent of the applications we receive do not come up to the quality standards we require for funding.

202. Has that ratio changed?

(Dr Williams) No; the percentage is much the same, but the number of applications has more than doubled, so one can talk only proportionally. As Dr Gordon Smith said, many times they are applying prematurely. What was your other question?

203. You referred to entering into more longer-term projects?

(Dr Williams) We believe research should be supported on a long term basis, and with greater stability and size of our income we will do more and more longer-term research. We are now planning to allocate one-third of our budget for longer-term projects.

204. You are doing this because you believe there is a vacuum which needs to be filled?

(Dr Williams) We believe medical research requires longer-term research. To my knowledge, the MRC has not increased its longer-term research; if anything, it has decreased it because of uncertainty over its income.

(Dr Ogilvie) If I may add something, one thing we are noticing is that we are frequently funding grants which require a research assistant who is a PhD. Frequently, these posts cannot be filled because these people are not going into the system and are not available. The other thing we have noticed is that if we make a long-term grant, say, five years, of a fairly substantial nature, involving perhaps two or three posts over, say, five years initially, with the promise of another five years, subject to performance, then we will get very good applications, often without it being advertised, because people hear of it through the grapevine and may come back from America or elsewhere to do it, so the whole thing is inextricably tied up with career prospects and lack of longer-term research is disastrous from our point of view.

(Dr Smith) The perception of a young person entering medical research is one of having three-year or shorter contracts, depending on the ability of more senior persons managing to get another grant. This means you cannot afford to apply for a three-year grant if you cannot come up with the goods because you might not get another one. So you go after the fast buck in research and it becomes a frenzy with the senior people worrying

[Baroness Lockwood *Contd*]

about how all these young people, who are dependent on them, will survive. This is not conducive to first class research in depth; research becomes superficial and does not offer a very attractive proposition to young people wanting to enter the field.

(Dr Williams) Many departments may have as many as 14 different grants running at any one time. The sheer management of those different budgets and different applications is a terrible load.

Chairman

205. Could I clarify one thing and relate it to your earlier point about the conflict between patient care and research. In the United States I gather that some of the research grants include an element for the patient care involved. I do not know whether that is so and whether it applies in this country at all.

(Dr Smith) In America it is rather different. The sort of people we are talking about here contracts for as long as they can raise the necessary salaries, and in a large number of cases they end up in a situation where they get 10 per cent of their salary from one grant, 20 per cent from another and so on. This is a different frenzy, but the frenzy there is complicated by the principal investigator himself having to find his salary in bits and pieces across the board. That is a situation even worse than ours in many respects.

206. You would not necessarily advocate it?

(Dr Smith) Not a happy thought!

Lord Hunter of Newington

207. Dr Smith, has the Wellcome Trust ever discussed the consequences of RAWP on the London medical schools with the Health Department.

(Dr Smith) I do not think the Wellcome Trust ever has. Those of us in the University of London have often worried about the consequences of RAWP and, of course, this is where London is specifically disadvantaged as compared with other places. I do not think we have ever had a Trust discussion of that.

208. There is some easement of that recently. Do you think this was because of the realisation that the complications of RAWP plus the UGC cutbacks were having a disastrous effect?

(Dr Smith) I would like to think so, but I do not know that that was the reason.

(Dr Williams) May I give what might be a short answer to this, which is that during this the fiftieth year of the Trust we have been travelling around to various activities in different universities round the country and I get a much better feeling of happiness and virility in the universities about research and their activities than I do anywhere in London, and I believe that this is quite a bit to do with RAWP.

Lord Erroll of Hale

209. My Lord Chairman, you touched on the United States and this is a question I was going to put in any case but you have given me a hook to peg it on. You talk about the world of medicine, you talk about the community of research, but your activities are devoted to funding work in the United Kingdom. To what extent do you, in fact, look across the Channel, and look across the Atlantic, to see how we are faring compared with other countries, where we are better, where we are worse? It is fascinating to hear that the frenzy for getting your money is even worse in America, to get your own salary, than it is in this country. We are so accustomed to hearing about everything being bad in this country and good elsewhere, it is rather encouraging to hear that it can be worse in America. I had always imagined they had unlimited funds and they organised everything better than we do. I am glad to see you shaking your head.

(Dr Smith) There are a lot of questions there, some of which I think Peter Williams had better answer. Firstly, our activities are not limited to the United Kingdom. We have European programmes, we have a tropical programme with units in several parts of the tropics. We have programmes with——

Chairman

210. All administered from here?

(Dr Smith) Yes. ——with Australia and New Zealand. Peter Williams can give you much more detail on that. In addition to that, the Wellcome organisation has an American research fund of which I, as Deputy Chairman of the Trust, am a director although I do not spend a great deal of time over there. It makes grants in the US out of the US company profits. Thus we are international although a large proportion of our funds is spent in the United Kingdom, firstly, I think for reasons of self-interest and, secondly, because we feel more strongly about making sure that British research survives. I will take one other point and then I will let Peter Williams deal with the others, the position in the US is very different. We took one aspect—the patching together of salaries—and in other respects the US is really quite different. There are a large number of foundations to apply to. You could pick local, national, all sorts of foundations—there are many, many different sources to go to. There is also a quite different attitude to health in that there are a very large number of private health organisations and agencies in the US which seem to feel a need for research that is not much felt here where there are, of course, very few such bodies. If you go from the London School to the Johns Hopkins School, which is the nearest exact counterpart in the UK, money is flowing into them from many private sector health organisations, environmental bodies and so on, for which there are no counterparts here.

211. This is paying for patient care as well as research?

(Dr Smith) Yes, everything—money. But it is a very different scene. I do not think it is easy to compare our rather tight nationalised situation with the US.

[Chairman *Contd*]

(Dr Ogilvie) If I may continue with more detail and our funding outside this country, with many European countries, including countries east of the Iron Curtain, we have exchange fellowship schemes and we bring in, I would say, about 30 to 50 people a year from these countries for one to two years to train at the post-doctoral level here, and this has been a very fruitful thing in a number of areas. We have a large input into the tropical area because of the will of our founder and in particular there we have a number of small research units doing long-term studies of particular diseases in various countries. One, for example, was set up in Bangkok to study the clinical management of acute and severe malaria in patients, clearly something that could not be done easily in this country because malaria patients occur so sporadically. We have a related study going on in Kenya looking at the way malaria drugs are metabolised, a very important thing at a time when resistance to malaria drugs is becoming a severe international problem. That kind of thing is done in the longterm, in some cases 10 or 15 years, depending on the programme. In terms of clinical research in America I think one of the major differences between this country and the United States is that clinicians in America are guaranteed what they call "protected time" to do research. They probably have clinical duties for say, four months of the year when they do nothing but clinical work and the rest of the time they can focus on their teaching and research. Here clinicians are running frantically about on a daily basis oscillating between the wards and, if they have any time at all for them, the laboratories. Most of them have no protected time, which is absolutely vital to do research. That is a major and important difference.

(Dr Williams) I think, my Lord, we are in touch with the advances. It is a very crucial part of deciding what we support, knowing what research is going on elsewhere in the world.

Lord Erroll of Hale

212. Would you say Germany or France are in the lead in any fields of medical research, since you claim to be keeping an eye on research worldwide?

(Dr Ogilvie) One of my colleagues is a distinguished immunologist on the staff. He recently paid a visit to France to investigate laboratories there involved in immunology. He came back feeling that they are far ahead of us. We are aware that the strength of immunology has declined relatively in this country to what it once was and France has invested far more in this area and is now much closer to the cutting edge in more of its laboratories. That is one example. I myself frequently go to the United States to see former colleagues because I worked for the Medical Research Council for many years and keep in touch in that way. We fund workshops with people from this country whom we support and people from America or Europe in specified areas. In order to assure ourselves that our standards are high we frequently use referees from the Unites States or Europe, wherever appropriate. We are most anxious and very much aware that we need to do this more and more at the time when we feel very sadly confident that our research strength is declining. We have to check that the state of it is by using international referees far more than we did in previous years. I think that is the most telling way I can describe to you how worried we are about it and how we keep in touch.

Lord Sherfield

213. I thought one of the most serious statements in this evidence was that there are now insufficient new scientists being trained at the post-doctoral level for the country's needs. That seems to me a very serious observation. I wonder if you might like to elaborate on it?

(Dr Smith) Dr Ogilvie has been looking into precisely this question with some of the Trustees. She could tell you this part of that story, I think.

(Dr Ogilvie) I have briefly touched on it. I have worked at the Trust now for eight years and when I first went there it was extremely rare when people were awarded a grant which required a post-doctoral scientist for them not to be able to fill it very easily with high quality people. I first noticed about four or five years ago in the field of immunology—one of the types of grants that I was handling at the time—that every now and then a grant came up in which is was impossible to fill a post because there were insufficient trained people of the right calibre at the post-doctoral level. It then became very clear in the very exciting frontier field of molecular biology that it was almost impossible to get people to fill these posts, and this is increasingly the position in all disciplines. In fact this morning I was sitting on a grant-giving committee when a clinician in one of the London medical schools wanted a molecular biologist to work on a problem which he had already worked up to a high level, but we did not fund it because we knew he would not be able to get a suitable PhD graduate. It is this sort of evidence which has made us aware of the problems of attracting people into medical research. We took a small survey of people who had been awarded grants of this type over the last two years, and the evidence was that they had no problem in getting assistants with bachelor degrees, but there was great difficulty in getting people with post-doctoral qualifications, either because they are not being trained or because they were departing for what they regarded as greener fields.

214. Are there any specific steps which you think might be taken to remedy this, or is it too complicated?

(Dr Ogilvie) Undoubtedly it comes down to career prospects. Young people coming out of universities say to themselves, "Where can I spend my life most fruitfully?" It is not just to do with salaries, but where can their talents and abilities flower in the best environment? More and more, because of the air of gloom about in the

[Lord Sherfield *Contd*]

universities—and this is very real—they feel that academic life is not for them.

215. It is not a question of the numbers coming out of the universities; it is a question of the direction they take when they come out?

(Dr Ogilvie) I think that in biomedicine the numbers coming out are not yet a serious problem, but in fields like engineering and communication science the numbers coming out are giving cause for concern.

Baroness Lockwood

216. You say on page 4, paragraph 9, that "Another requirement is to verify that the quality of supervision and training given by university staff to PhD students is of a sufficiently high standard." Could you elaborate on that?

(Dr Ogilvie) I can. The decline in the career prospects for outstanding people and the reduction in the number of PhD studentships coupled with the small stipend paid to students has resulted in an increase in PhD graduates who obtain their degree whilst working as a graduate research assistant on a grant. These people are often not of such a high standard as those who used to come into research directly as PhD students. We suspect that people being trained by working as a research assistant are not as likely to become the leaders of the next generation; they will make indians not chiefs, and their training is often narrow.

Chairman

217. What should be done about it?

(Dr Ogilvie) The trustees have already decided it is such an important problem that, partly to mark our 50th anniversary, we have decided to set aside £1m to fund studentships each year for three years at least. They will be paid at a rather higher rate than the going rate, with more realistic amounts of money for their research expenses. We believe that the reduction in recruitment is a very serious problem, and this policy decision reflects this perception.

218. Do you think the DHSS itself should do more?

(Dr Williams) If I could answer that, the extraordinary thing was that numbers were cut back by the MRC, and I am told they were cut back because they felt they should use the money for the continuing support of projects which they thought were very important. To make a choice which cuts off the new shoots for the future is a tragedy for this country. I would not have thought that training awards should be a role for a body like the Wellcome Trust; we have however taken it up on a temporary basis—potentially for three years—but we do not really believe that the creation of the seed corn for the future should come from the charities.

219. Earlier on you said that research was being hampered because of cut-backs in staff and now you are saying that educational training is being cut back to support worthy research grants, so we are going round in a circle?

(Dr Williams) I think the Government's first job is to see sufficient people are available for the future; that is absolutely the first priority. That is a matter of government funding. Secondly, they should take a longer-term view. If they cut back on anything it must be on the short-term money which is available, or is potentially available, from other sources. Whilst that may not be comfortable for the universities because they are used to these short-term grants, I believe the Government's organisation must decide what its priorities are; we cannot.

220. But that is exactly what is happening, from what you say?

(Dr Williams) Yes.

Lord Perry of Walton

221. You asked the very question I was going to put. The whole of this is interlinked?

(Dr Williams) Yes.

222. If you were to break out of this vicious circle, where would you break it?

(Dr Smith) If I could broaden the answer, because the Wellcome Trust is concerned with people like immunologists, microbiologists and the like and the MRC has broadly similar concerns, what should the DHSS be doing? If I might take a totally different area of research, which happens to be one of my hobby-horses, health services research, the story there is one where over a long period there has been no provision for training the people required and no provision of careers for them—and no provision of structures in which to operate and no carrots to aim for. I am talking of people like operational researchers, health economists and so on. These people are also woefully scarce and for rather similar reasons; they do not perceive a career, so the best do not want to go into health. This is an area so close to the management requirements of the DHSS and NHS that, although we do a little in this field, I would have thought the real push to train people, to provide posts and to find work in that area is a responsibility much more towards the government end of the spectrum.

Chairman] The question of health services research is very important, and we might talk about it a bit. Would Lady Warnock like to follow up the point?

Baroness Warnock

223. How close or easy is the connection with the research councils other than the MRC? Is the ESRC easy to approach? For instance, in relation to drug addiction units, has the Wellcome Trust had any conection with these problems, and has it identified any problems on these socio areas?

(Dr Smith) My great interest in the health services area is not fully shared by my fellow trustees to any great extent, though we have ventured to begin some research in this area.

[Baroness Warnock *Contd*]

(Dr Williams) We have defined "medical research" as the application of science to medicine; that is the way it comes through in the will. The more social side of research has, in medical practice therefore, not been a strength of the Trust. The Trust has found plenty to do in the application of laboratory science, and so our input into the social aspects of medicine is low. As Dr Gordon Smith says, not everybody is behind him, but health services research is something on which we are testing the ground, because we are not well informed in this area as we are in the application of laboratory science.

224. But it is almost as though the term "medicine" is changing its meaning under our very eyes, is it not—medicine as the application of research? Medicine was very simple, I suppose, when the Trust was set up and it is now infinitely complex. One knew what medicine was then.

(Dr Williams) I think there are much broader areas. The real problem is whether we should spread ourselves to broader areas or know what we are doing in narrow areas. The consensus so far has been that it is better to know what we are doing since there is plenty of science stuff to be done in the areas we have defined. But even this unpopular move into health services research may develop!

Chairman

225. On the other hand, health services research can be pretty important in helping one to establish what it is one ought to be doing.

(Dr Williams) Absolutely, my Lord, but what really amazes me, if I could speak out on this, is that we should have a National Health Service, which although it must be the biggest industrial organisation in this country does not seem to have R&D as part of its structure or at any rate not a reasonable amount of R&D. Surely there is a job to do to undertake research into the Health Service and that job should be built into its structure. I think that this really is a great indictment of the management of the Health Service.

Chairman] I am very glad you have brought that out.

Baroness Warnock

226. If the Wellcome Trust were to decide that health services research was not important and it was not interested in it and said so, then I suppose this might inspire others to get in some other people. If its roles became more clearly demarcated, might there be something to be said for that?

(Dr Williams) Nobody ever asks us for a grant on health services research. They have a pretty fair idea that we are not very keen on it.

(Dr Smith) I became conscious of this problem and felt we should make some contribution to it. I persuaded in fellow Trustees to make a small investment in this area because, as Peter Williams says, we do not want to spread ourselves thinner and thinner and thinner. However, we then called together a group of people who we believed were the brightest people in this area we could find and spent a day with them trying to get them to define what it was that we might do that was special to us so that we might help the situation. It emerged, I think fairly clearly, that what was needed was one or two, or more preferably, really bright people who might be the leaders in this area in the future. We have a very successful programme for developing epidemiologists, and epidemiology is one of the major skills of health services research, of course. In this we have a package which enables the fellow to take a course of training in epidemiology and then to spend three, four or even five years carrying out research to establish himself as an expert in the field. So what we are contemplating is launching a somewhat similar programme for people in the field of health services research; a combination of special opportunity for training followed by the opportunity to do some real research, protecting their time so that they can establish themselves as effective research workers. That is the sort of special contribution which I think the Trust could make, although I wholly agree with Peter Willams that R&D is a branch of the NHS which is, if compared with other industrial concerns, rather feeble.

Lord Flowers

227. Could I develop the theme a little bit, because we have touched on this several times but we have not grappled with it. We have a Government that believes that public expenditure should be reduced; they have a perfect right to believe that, I do not propose to challenge it—this afternoon anyway. So far as research is concerned, they have the belief—they have said it many times—that, if public expenditure is reduced for research, then other bodies who actually want the research will eventually be persuaded that it is in their interests to pay for it; there may be a difficult period when people adjust to the idea but that is the general thought. It has been applied more in natural science and engineering fields perhaps than in medicine, so far at any rate, in the deliberative way, but since it is being applied to the whole of scientific research, it includes medicine also really. I wondered whether you had any comments on whether there is anything wrong with that argument at all or whether, given time, it will work out all right.

(Dr Smith) I think, my Lord, that the childlike belief on the basis of which we are all told to turn to industry and industry will fund our research is simply not a viable proposition for medicine. What the medically related industries will fund is essentially practical resources to do for themselves, generally seeing the universities as a rather cheap option. Sometimes universities allow themselves to be a cheap option. Industry will, of course, snatch up any great patentable and marketable discovery which emerges but what they will not do—and I do not see why it should be the responsibility of industry at all—is to provide the basic long-term

[Lord Flowers *Contd*]

research which is the necessary underpinning of the Health Service, of the improvement of health, and of the sorts of discoveries which industry can exploit. I cannot see how—although it may work in engineering or something else—it will work in medicine because I cannot see how industry would feel justified in doing more than making contributions around the margin.

Baroness Warnock

228. Chairman, I think this argument Lord Flowers has put is terribly important. I fully realise the argument put by the Government, but I do not think it works with health research. It works perhaps with research that might lead to making a faster or better engine or something but it simply does not have any applications to health research and I believe that the Government would, if pressed, actually say "We don't think it does apply to health research but we are sure the charitable organisations will come in"—not industry, but the Spastics Society or something.

(Dr Smith) If we follow the analogy, the industry we are serving with medical research is the health industry, that is the National Health Service. That industry should pay for the R&D it needs, in other words, the Government.

229. The only close analogy is with the pharmaceutical industry which might fund research.

(Dr Williams) Could we turn to the pharmaceutical industry for a moment because that is an area where the Trust had some insight until recently because it owned a pharmaceutical company. I do not know if the Government has thought about the sums of money spent on research and development in the pharmaceutical industry, but take the Wellcome Foundation Ltd: that one company spends over £130 million per annum on research and development. That is more than, or as much as, the budget of the Medical Research Council. Now, that is the necessary money long-term, with lead time and the rest of it, in order to produce suitable drugs. It seems to me very paltry if an equivalent sum is all that a country can expect to spend on the basic research for all the many pharmaceutical companies that are going to use the products of our universities, the individuals who are trained in our universities, to work in them. There has to be that source of people to work in these firms, they could help with training them—they do help with training them. But I think that we must appreciate the enormous R&D input of the pharmaceutical industry, and I am talking about one company at that level. Therefore, the overall input of the pharmaceutical industry into R&D is employing people and, after all, producing the drugs that are so important for the Health Service, and they do it with profit.

Lord Hunter of Newington

230. Several hundreds of millions are spent every year by the Government in subsidising the pharmaceutical industry?

(Dr Williams) Is it?

231. Yes—through the price regulation scheme.

(Dr Smith) The effect of that is to depress the profits of the pharmaceutical industry rather than subsidise it.

Chairman

232. Is there not a danger that if you rely entirely on industry the research will be directed to those areas which will be of interest to industry and not necessarily the priorities which should be national ones?

(Dr Williams) Yes. If you take tropical disease drugs, they will not come about through the profits of industry.

(Dr Ogilvie) If we leave it just to the charities, most of the changes in direction will not be towards diseases of greatest numerical importance; a lot of the major diseases do not on a national basis attract much charitable support—things like gastro-intestinal and respiratory diseases. Another problem in terms of the ethnic population is sickle cell disease, for which there is no great charitable interest. There would be great holes in the research effort.

(Dr Williams) The Mental Health Foundation manages £$\frac{1}{2}$m a year, whereas some much rarer diseases collect very much more. I do not think this is a good measure of the need.

Baroness Warnock] Nor are the charities willing to come together to spread their resources; it is a very patchy and whimsical thing.

Lord Rea

233. In the present rather difficult situation charitable trusts are playing an increasingly important part. I do not know enough about the history of how the Wellcome Trust was set up, but what are the possibilities of the pharmaceutical industry and other health-related industries being encouraged to set up similar trusts, and why is it that in the United States pharmaceutical and health industries are so much more prepared to give money without a specific short-term pay-off?

(Dr Ogilvie) Could I start by answering? The pharmaceutical industry is beginning to do this. For example, Merck, Sharpe and Dohme have set up a research group under a man called Iversen from Cambridge to study the pharmacological properties of the brain and nervous system. That is pure research. There are a number of developments here, but in relation to the point Dr Williams made, they already invest an enormous amount of money in research.

234. But for their own fairly limited purposes?

(Dr Smith) The pharmaceutical industry does invest in research outside its own walls but generally research devoted to its own interests. It may also set up trusts, but this is more common in the United States than here. There are many, many more

[Lord Rea *Contd*]

foundations of all sorts. However, the Wellcome Trust is a unique model which is not terribly likely to be repeatable, because Sir Henry Wellcome happened to own all the Wellcome companies and assets lock, stock and barrel and he had no-one to leave it to. Effectively he intended to set up the whole thing, the company and Trust, as one organisation. He originally intended the trustees to run the company, but wisely this was set aside and the two were separated. We have a situation where the entire proceeds of the company are turned over to the trust to distribute for the benefit of medical research and the other matters which Sir Henry wished to support. It is difficult to see that being easily repeated in today's climate.

Baroness McFarlane of Llandaff

235. Unrelated to what has gone before, what about research into the history of medicine, and what sort of relationship does that have to the NHS?

(Dr Smith) First of all, one of the things our founder had was a large library, and we have become responsible for that. As to the history of medicine and precisely what we are doing, it would be easier if Dr Williams answered.

(Dr Williams) To answer one specific point, the Wellcome Trust Unit in Oxford is headed by Dr Webster who is employed by Oxford now. He is in fact writing a history of the NHS, supported by the Health Service. We are taking some interest in this. One of the things we have found is that the history of medicine tends to look back rather far. We had a working party which the other day recommended that we must look at a bit more recent history than pre-1850. I think this may be very important, because the history of the development, shall we say, of medical research would be very, very interesting and quite informative. I am sure the sort of pattern we are talking about today has been going on before.

236. Mr Chairman, I wonder whether the contemporary history of medicine relates very much to Health Service research?

(Dr Smith) I think that history demonstrates the neglect of it ever since the beginning of the century.

Chairman

237. Are there any other questions the Committee would like to put to our witnesses today? If not, are there any other points our witnesses would like to make which they feel have not been brought out in our interesting discussion?

(Dr Smith) I think not; many of the points have no doubt been made repeatedly.

238. Repetition is a useful input.

(Dr Williams) I think we have been able to say all we can.

239. May I express our gratitude to you for giving us your time this afternoon, and also for the patience with which you have answered our questions. Your evidence has been extremely useful to us.

(Dr Smith) Thank you for allowing us to ride our hobby-horses.

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(SUB-COMMITTEE II)

at

THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH

Thursday 16 July 1987

Professor M F Oliver, Professor A C Kennedy and Mr T J McNair

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THURSDAY 16 JULY 1987

Present:

Hunter of Newington, L.	McFarlane of Llandaff, B.
Kearton, L.	Nelson of Stafford, L. (Chairman)
Lockwood, B.	Rea, L.

(In the absence of the Chairman Lord Hunter of Newington was called to the Chair)

Memorandum by the Royal College of Physicians of Edinburgh

The Council of the Royal College of Physicians of Edinburgh has now had an opportunity to give careful consideration to your detailed letter of 3 March 1987. I shall summarise, as succinctly as possible, the views of the Council on the nine specific questions which you ask.

First, the Sub-Committee will wish to know about the involvement of the Royal College of Physicians of Edinburgh in medical research. The primary responsibilities of Royal Colleges are to set and maintain standards of training and practice in medicine, to advise concerning career structures and to report to public bodies and the public itself concerning issues which need to be addressed or developed. Having stated this, the Royal College of Physicians of Edinburgh has three components within its total programme and policy which bear on medical research:

(i) There is a Council Committee on Education for Health which was established ten years ago in order to monitor health trends and initiate investigations, including actual medical research, in areas where information is inadequate or where action appears to be needed. Examples of the activities of this Council Committee include: surveys to obtain information concerning alcohol abuse, cigarette smoking habits in adolescents and young adults in Scotland, child abuse, the battered wife, care of the elderly, nutritional inadequacies, care of the dying and sex education for mentally handicapped.

(ii) A Research Unit is in the process of being formed within the building of the Royal College of Physicians of Edinburgh and it will be directed by a distinguished clinical epidemiologist who is retiring from Chairmanship of one of the most important University Departments of Epidemiology in the United States. In the first instance, the data will be collected concerning end-stage renal disease, particularly in relation to diabetes mellitus, and senile dementia, including Alzheimer's disease. In due course, the net will be spread wider.

(iii) This Royal College, like other Royal Colleges, provides frequently a forum for exchange of information concerning many areas of medicine and medical science. One year ago, the Queen Mother opened a £1.5 million Conference Centre and symposia take place regularly in this Conference Centre involving every branch of medicine and related subjects. In the last month, for example, there have been a joint symposia with the Royal Society of Edinburgh on Death and Disease in Scotland, a symposium on the Economics of Health Care and a symposium on Communication with Patients. Every December, a two-day meeting is held on a specialised subject. Additionally, a two-day summer meeting is held on annual updates in medicine. While these are primarily education activities, they always contain a sizeable component of presentation of new research results.

Second, our Council's answers to the nine specific questions raised by the Sub-Committee are as follows:

(a) How are priorities for medical research set? How do these reflect the particular needs of the National Health Service, or more generally the health needs of the nation?

Priorities for medical research are not actually set by any organisation or institution. Mostly, they develop on an opportunistic basis according to the interest of research groups and individuals. To some extent, they are dictated by the interest in specific diseases. Such an unstructured approach to medical research does not necessarily reflect the particular needs of the National Health Service and, even less, the health needs of the nation.

The identification of priorities in medical research for the health needs of the nation should be an utmost priority of the government. It should not be left exclusively, as it is now, to the chance situation of applications to Research Councils and the chance situation of the development of enthusiastic ideas by university departments and individuals.

There is a case to be made for a component of directed or applied research, even although the Medical Research Council has consistently opposed this. To some extent, however, the priorities given by the DHSS in relation to MRC grant applications meet this need but the total funds available to support MRC grants are so miniscule in relation to the health needs of the nation that other avenues for directed research should be developed. Yet, these must not overwhelm or pre-empt opportunistic research.

The establishment of a permanent "think-tank" to advise government on priorities of medical research in relation to health needs might be one of the most important developments for the latter part of this century and a supreme investment for the next.

(b) Is the present balance between different branches of research right? Assuming that resources are limited, what programmes might be cut back, in order to allow those which should be given a higher priority to expand? What programmes need higher priority? Would priorities change in the light of increased resources?

Every organisation and individual will answer this question differently, accordingly to their particular priorities. The Council of the Royal College of Physicians of Edinburgh advise that three considerations should be taken into account:

(i) The pattern of disease mortality in the United Kingdom. Insofar as this is a Scottish Royal College, the situation in Scotland needs to be noted. Mortality rates are in general higher than elsewhere in the United Kingdom. (There is a very considerable and unexplained excess of heart disease and cancer, for example).

(ii) Chronicity of disease which causes loss of work and loss of earnings (such as low back pain).

(iii) Areas of emerging knowledge which require to be nurtured and stimulated, such as molecular biology and genetic engineering. But well identified and unsolved major diseases also need high priority. For example, it is often said that heart disease and cancer are relatively well funded by the related charities. This is actually not so in terms of the incidence and mortality from these diseases. They are in fact grossly underfunded both by government and by the charities.

(c) Are priorities in medical research adapting to changing incidences of disease, changing population structures and new technology?

To a large extent, priorities in medical research have adapted well to changing incidence in diseases but will need to continue to do so, particularly in view of the epidemic of AIDS. This is likely to become so serious and so prevalent that many of the other priorities will have to be subordinated for a while. Priorities are also adapting to new technologies but these should not be permitted to dictate the direction of medical research.

(d) How are priorities in medical research influenced by the institutions through which research is funded? How does the balance between public, commercial and charitable funding of research affect the setting of priorities by the different institutions involved?

In general, priorities in medical research are influenced by the institutions through which research is funded as a result of the quality of the research submitted to them. In other words, first class projects are seldom refused whether funds come from public or charitable bodies. But there is an increasing demand by and dependency on priorities set by the pharmaceutical interests: these may lack a conceptual content and be too orientated to commercial profit.

(e) Are the results of research adequately disseminated?

Results of research are undoubtedly adequately disseminated. There are many many channels for such dissemination and generally they work efficiently. The Royal Colleges play their role in this regard with frequent symposia and workshops in specific subjects.

(f) How is unnecessary duplication of research effort avoided?

Exact duplication of research is uncommon. On the other hand, many ideas are developed and pursued in parallel in different institutions and different countries. This is desirable, since it is unlikely that exactly similar work evolves. If it does, the speedy dissemination of knowledge referred to in the previous answer will overcome this.

On the other hand, there are examples which can be identified where similar broad areas of work are being pursued in neighbouring universities and institutes and comparatively little exchange takes place and there is a degree of territorialism which needs to be overcome.

(g) Is research reflected as it should be in actual improvements in patient care or health education? If not, why not?

No. It takes many years, perhaps a generation or two, for a new advance (unless it is like penicillin) to be assimilated into clinical practice. The dramatic response of infection to antibiotics is an example of successful application of research to patient care. But most advances in the prevention and treatment of major diseases have to be subjected to formal clinical trials which take time and often raise as many questions as the answer. The requisite of clinical trials applies even to such areas as acute intensive care, where successes have had profound influences on the pattern of care in the National Health Service. Each advance should be rigorously tested, not only to prove that it is a real advance but, particularly in the case of new drugs, that they are safe when given over many years.

(h) What changes in priorities in the training of medical researchers are needed?

There is only one urgent and fundamental priority needed in the training of medical researchers. This is a career structure. The National Health Service with its system of early tenure and relatively highly paid posts, inevitably "seduces" many young men and women from pursuing clinical research. The magnet of the NHS may prove too strong for many who are intellectually seriously committed to clinical research. Unless, a career structure is provided with some degree, although it should not be too great, of tenure, clinical medical research will gradually collapse and indeed has been doing so for the last ten to fifteen years.

The establishment of a career structure for clinical research, which would enable young investigators to move laterally into basic science research units and basic science university departments, on the one hand, and the NHS on the other hand, is one of the most urgent and important priorities for consideration by the House of Lords Science and Technology Committee. The damage which has been done to Medical Research and the National Health Service as a result of the lack of such a career structure and chronic underfunding is very great, in comparison with other countries. It will take many years to repair.

(i) Should any specific changes in organisation or funding be made in order to increase the quality, quantity or application of research?

The question of whether several major clinical research units should be established in the United Kingdom needs to be considered. At present, Research Council Units, the universities and the pharmaceutical industry are the key organisations. Technology has and is advancing so rapidly that a case can be made for the establishment of a few major institutes of applied research in the United Kingdom within or even independently of the former two. An example is the establishment of Institutes of Molecular Biology. The investment of private money, as in the United States, should be encouraged and there is no reason why this should not be shared with government funds to establish such units.

In conclusion, the Royal College of Physicians of Edinburgh recommends:

(i) The establishment of a Standing Committee on priorities in medical research—a "think tank" which will be flexible in relation to advice to be given to government as the needs for improved health change.

(ii) The establishment of a new career structure in clinical research to enable talented men and women to develop their ideas independently of formal university posts and National Health Service posts. This should be constructed in such a way that lateral movement to and from each of the other organisations is possible. Such a career structure might provide tenure in the late thirties or early forties.

(iii) Consideration might be given to the value, intellectually and economically, of establishing a few major Research Institutes which are sufficiently strongly based and well-funded to permit development of new ideas in relation to the health needs of the nation.

Finally, I shall be only too pleased to represent the Royal College of Physicians of Edinburgh should the House of Lords Committee wish to receive oral evidence on these matters.

Memorandum by the Royal College of Surgeons of Edinburgh

The Royal College of Surgeons is primarily an examining and teaching body and in this has an international role in surgery and dental surgery. It does have a role in research of a promotional type:

(i) *Provision of Funds* to young surgeons and dental surgeons to initiate research projects—a primary role—which can attract further funds from elsewhere.

(ii) *Promotion of Research* by award of Lectureships/Professorships for research—basic and clinical—by surgeons.

(iii) *Provision of materials*—There is an excellent Pathological Museum which provides facilities for research in rarer diseases for example on bone specimens.

(iv) *Travel Funds* to allow presentation of research work or attendance at meetings in various parts of the world.

(v) *Aid to young surgeons from abroad* to come to United Kingdom for training including the provision of accommodation in Edinburgh.

(vi) *Promulgation of Research through the Journal.*

Q.1 What problems has the College encountered in the development of regulations for accreditation for:

(a) those medical practitioners who wish to pursue an academic/research career, and

(b) those doctors who are uncertain whether they wish to pursue a pure clinical research career, a mixed service-academic career or a pure service career?

A. Accreditation itself presents no major problem in relation to research as one year's research is recognised in the training of a surgeon, thus emphasising the value of research. It is not, at present, mandatory to do such a year of research.

The problem arises at the institutional level where research time and clinical needs may conflict and a lack of flexibility is present. This problem is particularly acute in dentistry. This really reflects the difficulty of establishing proper training programmes. This was certainly present in the past when the value of research to the trainee and to the NHS was not completely understood. In recent years, a more knowledgeable attitude has developed, especially in the teaching hospitals where the Professor of Surgery does and should take an active part in association with his NHS colleagues in the formation of Higher Surgical Training programmes.

In the non-teaching hospitals the presence of academically trained surgeons has brought life into the research area, to the great benefit of the young trainees. There are many examples of this throughout the British Isles. There may unfortunately be differing interpretations of the regulations for accreditation and need for research; these should be reported to the Specialist Advisory Committee for action.

Q.2 Does the College envisage any changes in the total medical training (both undergraduate and postgraduate) which would improve conditions for medical research?

A. *Changes in surgical training to improve clinical research* (see Appendix)

UNDERGRADUATE

During the last five years there has been a gradual fall in the number of undergraduate medical and dental students doing intercalated science degrees between the pre-clinical and clinical parts of the medical undergraduate curriculum. The College believes that this is the indirect result of diminished funding and staffing in pre-clinical Academic Departments and is a retrograde step. Efforts should be made to reverse the situation.

POSTGRADUATE

(a) Within Higher Surgical and Dental Training Programmes there is a need for the identification of Units where clinical research training can be undertaken. These Units would include all academic Surgical Units and all NHS Units and Dental School Departments with consultants who have a documented research record and who have attracted research funding from grant-awarding institutions and industry.

(b) All Higher Surgical and Dental Training Programmes should be funded to enable each senior registrar to have a year off service either to undertake research or to acquire special clinical skills in other hospitals within and outwith Scotland. Although this is presently available in some regions, it should be formalized and established as the norm.

(c) Surgical research can be undertaken full-time or on a part-time basis when the trainee continues to have clinical duties. The present arrangements for the latter are unsatisfactory as the time available for research is largely dictated by the clinical service load which fluctuates considerably on a week to week basis. It is therefore difficult for many a trainee to maintain a research momentum when his investigative work has to remain subordinate to his clinical responsibilities. Surgical Units identified with clinical research training in surgery (including Academic Departments) should have a greater allocation of numbered posts and clinical training. This would allow firm rotation between clinical and research duties on a regular basis.

(d) There is a need for a revision of the surgical lecturer grade within academic Surgical Departments. The research component of these posts has been eroded by the enforced rotation which is necessary for accreditation. The lecturer grade is in many instances identical to the NHS Senior Registrar post.

(e) It generally is considered highly desirable that surgical trainees should be exposed to research projects and to have the opportunity of first hand experience of the methods of research. It is also extremely likely, with the implementation of the Hayhoe Report, that a considerably fewer number of surgical trainees would want to undertake research in the future or indeed have the opportunity to do so. Surgical research should be made available to trainees on a selective basis such as:

(i) those intent on an academic career;

(ii) those desiring a hospital consultant career in a teaching hospital.

Q.3 Does the College have any difficulties in the recruitment of medically qualified researchers?

A. Not at present but the College is worried about future recruitment in view of the implications of the Hayhoe Report.

Q.4 Does the College have any problems in the dissemination and application of clinical and health services research findings (including health promotion) in NHS practice outside the academic centres?

No.

Q.5 What are the College's relations with Universities and with the Scottish Home and Health Department in influencing medical research priorities, and how do these differ from England and Wales?

Excellent in Scotland because of the Biomedical Research Committee and SHERT. To the College's knowledge, there is no equivalent in England and Wales.

October 1987

Appendix

RESEARCH IN DENTISTRY

Although almost all the comments about surgical research are equally applicable to dental research, research in dentistry experiences additional difficulties.

(a) Dentistry is generally concerned with less threatening conditions than is much of surgical research and it is therefore more difficult to attract support from external sources such as charitable trusts and industry.

(b) The accreditation system in hospital dentistry is similar to that in surgery, but is more recent and less refined. There has been a rather inflexible interpretation of accreditation regulations and a lack of positive encouragement for the young hospital dental clinician to involve himself in full-time research. Dentistry experiences the same erosion of time available for research as does surgery as a result of the rotation requirements of the training programmes for accreditation, and greater flexibility and more generous staffing is required.

(c) Most of the research in dentistry is carried out in Dental Schools and the associated dental hospitals. These differ in their staffing pattern from the equivalent medical establishments in that dental academic staff are supported by a much smaller proportion of equivalent National Health Service clinical staff at all grades. Much of the Service work in dental hospitals is therefore carried out by the academic staff who have less time than their medical colleagues in which to carry out research and supervise that of younger colleagues. The situation is deteriorating as a result of continuing cuts both in the Universities and the National Health Service.

(d) There is less flexibility in the individual's ability to change between hospital and university posts early in his career to permit him to gain experience in posts principally dedicated to teaching and research or, on the other hand, to the provision of service and the acquisition of clinical skills. In dentistry the choice tends to be either one or the other. There is an urgent need for the establishment of more joint university/NHS funded posts at lecturer or equivalent level, as in the medical field, to introduce a similar flexibility of interchange between university and hospital career ladders and often wider opportunity and encouragement to become involved in creative research. In further encouragement of this aim, the Faculty of Dental Surgery strongly supports the proposal (Page 54; item 2) to establish a spare slot in all Higher Training Programmes in dentistry as well as in surgery to relieve each Senior Registrar of service commitments for a year to gain research experience. The difficulties described on page 54; item 3 apply equally to the academic or hospital clinical trainee in dentistry. The proposal to increase the number of posts in Units identified with research training would be particularly valuable in dentistry to permit a better balance between research and clinical training and encourage the gifted individual.

(e) There is great difficulty in dentistry in recruiting dentally qualified research workers. Research is therefore generally carried out on a part-time basis by academic or hospital staff and by scientifically qualified research workers. At least part of the difficulty lies in the relatively small proportion of dental undergraduates who intercalate a science degree between the preclinical and clinical undergraduate courses. The reasons for this are complex and not wholly related to funding. Nonetheless reductions in funding are making even less of these scholarships available and every effort should be made to increase the number available. A cadre of young clinicians who have had experience in research is essential for the future of dentistry.

Dean of the Faculty of Dental Surgery
Royal College of Surgeons of Edinburgh

October 1987

Memorandum by the Royal College of Physicians and Surgeons of Glasgow

(a) How are priorities for medical research set?

There is no overall control over priorities for medical research. The Medical Research Council will from time to time highlight specific topics which they consider of great importance and they will attempt to give some priority in allocation of funds to such themes. Submissions to the MRC however are accepted only after the closest scrutiny of scientific merit and the fact that a submission is on a theme deemed to be particularly important is unlikely to prove successful is if it is of less scientific merit than a submission on a less topically important theme. Occasionally, the Government will identify a subject as being of particular importance and will specifically allocate a resource for research; a current example is AIDS. Central allocation of research funds by Government is however relatively infrequent.

Around 1971 the Government decided (the Rothschild Report) to take from the MRC allocation some money for commissioned research on themes thought to be of considerable importance to the NHS. This approach did not in the event prove very successful and was abandoned after a few years. Perhaps the implication of this is that it is difficult to achieve successful research via committees.

Another mechanism of ensuring that research is carried out in specific topics is via the major medical charities. Subjects such as heart disease, leukaemia and so on are generally well endowed and undoubtedly make major contributions to research funding in specific diseases.

(b) Is the present balance between different branches of research right?

The best research is, of course, in many ways that which is successful in establishing causes of disease and prevention or treatment. It is, however, extremely difficult to predict what the outcome of research will be. If a central committee chose to give great priority to one line of research it certainly would not guarantee success. It would seem better to continue with present arrangement of backing good ideas and well thought out plans. Some times successful research in what seems, at the time, to be a *relatively* unimportant area of disease may throw up information and techniques which have a tremendously valuable spin-off in other areas.

(c) Are priorities in medical research adapting to changing incidences of disease, changing population structures and new technology?

In general the answer to this question is "yes". In academic departments and in MRC units where much of the research goes on it is unlikely that there support given to someone who wished to undertake research on an outdated theme. Young high—flyers in medicine, on whom we are so dependent for research ideas, have lively and enquiring minds and are much more likely to be excited and intrigued by the major current problems around them than by worn out themes.

(d) How are priorities in medical research influenced by the institutions through which research is funded?

There is a reasonably effective network of communication between bodies such as the MRC, the Scottish Hospitals Endowments Research Trust, the Chief Scientist's Office in London and Edinburgh, and the various major medical charities. There is often a cross-representation from the Scientific Advisory Committees of the structures.

(e) Are the results of research adequately disseminated?

The answer to this is undoubtedly "yes". The number of medical publications is very large and there are ample opportunities for young doctors to appear at research societies, specialist associations and other bodies (including the Royal Colleges) to present and debate the results of their research.

(f) How is unnecessary duplication of research effort avoided?

There is some degree of overlap of research effort but this is no bad thing. One cannot guarantee that one group doing research on a given theme will come up with the same answers as another group. In general the most effective way of controlling undue duplication of research activity is via the funding mechanism. It is highly unlikely that a funding body would support two apparently identical research themes and the cross-reference that exists between funding bodies is another safeguard.

(g) Is research reflected as it should be in actual improvements in patient care or health education? If not, why not?

Research which has a relatively dramatic outcome in terms of producing a new drug to treat a disease or a new technique (for example kidney machines) to treat a disorder are taken up very avidly by the medical profession and, if the topic is emotive, strongly supported by patient groups. Dramatic advances in medical care cannot be held back. There is sometimes quite an understandable delay of trained personnel and equipment. One would hope sometimes for a speedier implementation of measures of proven benefit but in general the situation is reasonably satisfactory in relationship to dramatic advances.

The position is less satisfactory in respect of advances which are less dramatic. Good examples are the effects of smoking and of excess alcohol on health. It has been said that the single biggest step that could be made in the improvement of the nation's health would be the abolition of cigarette smoking but progress in this direction is extremely slow. Much more requires to be done in respect of health education upon the hazards of tobacco and excess alcohol.

(h) What changes in priorities in the training of medical researchers are needed?

It is doubtful if any changes are required in the training of medical researchers. The problem that exists in university departments and in MRC units where the bulk of medical research is carried out is that of lack of overall funding. There has been a reduction in the number of posts held by doctors engaged in research and also a reduction in the amount of time available to practising clinicians (whether academic or NHS) who wish to do research because of the increased pressures of clinical work.

(i) Should any specific changes in organisation or funding be made in order to increase the quality, quantity or application of research?

The critical change that is required is an increase in funding to academic departments and to MRC Units; and a reduction in pressure on teaching hospital staff so they may have more time available for involvement in research.

Professor A C Kennedy
President
Royal College of Physicians and Surgeons of Glasgow

Examination of witnesses

Professor M F OLIVER, President of the Royal College of Physicians, Edinburgh; Professor A C KENNEDY, President of the Royal College of Physicians and Surgeons, Glasgow; and Mr T J MCNAIR, President of the Royal College of Surgeons, Edinburgh, called in and examined.

Lord Hunter of Newington

240. Professor Oliver, can I welcome you and your colleagues. Secondly, I think we are all labelled so we really do not need introductions. We have had a paper from you, which we have enjoyed reading enormously but we have not yet had a paper from your Glasgow Colleague. Is that right?

(Professor Kennedy) That is right.

241. We do not have a paper from the Surgeons.

(Mr McNair) No, sir. There has been a slight misunderstanding. We have been given an allowance of another two months in which to submit the paper; there was an administrative mistake, but it will come. The working party has only just been set up.

242. Perhaps I could ask Professor Oliver if he wants to add to what he has given us—in addition to what we have read—and ask the others if they want to contribute. Firstly, Professor Oliver, is there anything you would like to add to the paper that you have given us?

(Professor Oliver) I do not think so, sir, at this stage because I assume that most of the nine questions will be elaborated on as we go on. Presumably you are going to ask new questions and therefore I would not want to add anything more.

243. Professor Oliver, we have read your first statement about the involvement of the College of Physicians in medical research. Would you care to expand on this a little bit and give us, perhaps, some of your ideas for the future?

(Professor Oliver) Yes, thank you, Chairman. Maybe I should start by indicating to those who

[Lord Hunter of Newington *Contd*]

might not quite understand what the Royal Colleges are. This in itself is quite a difficult subject to tackle and I may well be telling you what you already know, but they are totally independent bodies; independent of Government, independent of universities and independent of the Health Service and they obtain no funds from any of these sources. They are self-regulatory bodies which act principally to establish standards and are the main advisory bodies to the General Medical Council which, as you know, is a statutory body concerning registration standards. So while they are not statutory bodies themselves, because they are ancient colleges established for 300 or 400 years they have a role of being the principal advisers to a number of statutory bodies in terms of examination standards. Having said that, it must be quite evident that the role of the Royal Colleges is largely concerned with postgraduate structure, training, education and exams and, in the case of this College and several others, a great deal of overseas activities. So, therefore, it must be fairly clear that none of the Royal Colleges actually pursue any research themselves. The structure of the Royal Colleges is such that they effectively cannot pursue research. The Royal College of Physicians of London has a research unit connected with the Kings Funds and we are developing a research unit here through an independent endowment that we have had. Even so, although there are these two units of these two Royal Colleges of Physicians there is a limit to the actual research, in that sense, that a Royal College can undertake. What we do in relationship to research is, really, threefold. I have tried to elaborate these things in my memorandum. We have a number of Committees, of which the Council Committee on Education for Health is one which I chose to give an example, which is responsible for considering issues of the day which are important to the public and important to the profession. One which we are currently very much concerned with, of course, is child abuse. Others include alcohol abuse, cigarette smoking habits, the battered wife, care of the elderly, nutritional inadequacies, care of the dying and so on—issues which we believe we should address on a community basis, not only to advise the public and, if you like, reassure the public of the situation but advise professionals as well as to what additional information is needed, what data should be collected and how we should therefore proceed in terms of research and indentification of priorities. This Royal College right now is preparing four position papers, which will be short position papers and which will be launched each with a press conference, having been through Council, on the following subjects: child abuse is one; tranquillizers and drugs is another, organ transplantation is another; and autologous blood banks is another. That gives you an idea of the spread of activities, and these position papers will be no more than 3,000 to 4,000 words, and we will do our best to put these particular problems in perspective. If we find during the course of the collecting of evidence about subjects like these that there are aspects of research that are required, then we will endeavour to promote them, because we are sufficiently well-funded to be able to provide training fellowships or postgraduate fellowships, and underwrite a certain amount of research in units which might be best placed to address these problems.

244. In your opening remarks, you mentioned the question of your influence on training for medical students, postgraduate and undergraduate. Are there any problems in relation to training researchers in the medical field or do you think the position is satisfactory?

(Professor Oliver) No, I think it is very far from satisfactory; very, very far from it. In relation to the additional questions that have been asked, I think you bring out in those certain quite important points. Might I answer your question by answering some of these?

245. Certainly, yes. I was asking you one of these questions.

(Professor Oliver) Yes, I recognise that. You see, the first question: "What problems have you encountered in the development of regulations for accreditation for those medical practitioners who wish to pursue an academic/research career?" I think I would answer that, subject to what my colleagues say, by saying that accreditation, for somebody who is going to pursue a full-time research career, is not relevant. Accreditation systems operate in the Health Service, and that is a different issue. For a full-time academic research career one does not need to be accredited through such a system organised by the JCHMT, for example (you might wish to know I am the incoming chairman of the JCHMT in November).

246. If a man wishes to combine a clinical department, it is better to work with research activities and in these days of change, with the techniques one has to learn, perhaps the techniques of biochemistry, how do you see this being fitted into the training programme for a proportion of these people?

(Professor Oliver) Your question really now relates to what I would prefer to call a clinical investigator, who is giving a service as well as pursuing his academic interests. My first answer related to the individual who is going to pursue a full-time academic career, probably in a university post, and that is why I said accreditation is not particularly important. When you get into the situation of a man who is going to spend, say, fifty per cent of his time pursuing academic work for the rest of his life and fifty per cent or something like that delivering a service, which is the position that most of us are in—certainly the position I think Professor Kennedy and I and Mr McNair have been in, because we are all in background clinical academic investigators and not full-time academics in the sense of not giving a service—that individual has a lot of difficulty and we have enormous

[Lord Hunter of Newington *Contd*]

problems, all of us, in getting his training right. I think that the main reason for this is that he is not able usually to know what he wants to do. Until he is 30 to 35, he is exploring and trying a number of different areas. He is putting his finger in the water and seeing what the temperature is. He may not like academic or clinical investigation at all and decide eventually, having been exposed to this, that actually what he wants to do is to become a consultant physician or surgeon in a hospital which has not got any academic leanings. Where we have the greatest difficulty is in providing opportunities for men and women who wish to look into the possibility of academic research or clinical investigation. They should be given the chance of, say, five or seven years to see whether this is what they really want to do. Some will get very excited, stimulated and will pursue research ideas forever. This of course will lead to another question of how to provide them with a secure position others will think, "This is one thing I should not have done. I do not like this at all. It is far too academic, and I want to get back and see patients and practise medicine," and they will have been given the chance at least over these five or seven years to reach a decision.

247. Are the training programmes flexible enough to allow people either as undergraduates or postgraduates to do this?

(Lord Nelson of Stafford was then called to the Chair)

(Professor Oliver) An aspect of the problem of training programmes, of course, relates to the next move. The training programmes are too structured to permit this period of five or seven years. I will have to go back a little for Lord Nelson's benefit. I am describing the situation of an individual of 28 or 30, that sort of age, or maybe even younger, who has been qualified in medicine for three or four or five years and who becomes more interested—and maybe he did an intercalated degree during his undergraduate career—in academic medicine and then he wants to get into medical research. The opportunities for that individual are very restrictive at the moment, mostly because of the lack of posts we have. He could become a lecturer in a university department but these are highly competitive posts and if he becomes a lecturer, it may be difficult for him to get out of the university structure and cross into the Health Service at a later date. Furthermore, as you know only too well, the number of lectureships which are funded by the UGC have been reduced greatly and are likely to continue to be reduced.

Chairman

248. Why is it difficult for him to get back into the Health Service? I am sure he would be a very valuable man.

(Professor Oliver) One might think that, but then he has moved sideways and he finds himself in a position of competing with his equals who graduated with him but who went into the Health Service. If there were plenty of jobs in the Health Service what you suggest would apply, but there is a great deal of restriction of jobs in the Health Service as well, so he is competing with another bunch who went off into the Health Service. The other bunch, of course, were people who perhaps were not intellectually excited by research or, alternatively, could not afford to be because they were married with a mortgage and a child, or something like that, and they go to the Health Service where they have a tenure much earlier.

249. Let me ask you on that point: is that a question of management? My background is in industry, as you may know, and we made a point of feeding people out of research into the operational divisions because we got extremely good people into the operation divisions who had research backgrounds. It seems to me that such moves also make room for more young people to come into research.

(Professor Oliver) Presumably on an industrial management basis you can then move them back if appropriate. We cannot do that—that is the point. It is not possible to move them easily from the Health Service into a career structure post in the universities or vice-versa. We find ourselves, in relationship to this period of development of this young man or woman, in a position of not having sufficient posts for clinical scientists, either as a university lecturer or from external funds. The MRC provides a certain number of training posts (far too few) and the charitable foundations provide a certain number also. The Wellcome Trust provides the most important by far. The British Heart Foundation, as Lord Kearton knows, provides a certain number as well and the Cancer Research Institutes and so on. These are too few by a long way and many of them are too short-term, in my view: I think three years is not long enough because when a man has been in research for one and a half or two years he begins to worry whether he has to leave and he does not have time to get into any worthwhile work. I think he should be given five years or even seven years, or something like that. I was interested to hear (I do not know whether you are aware of this meeting) two days ago, at the 50th anniversary of Wellcome Foundation, Lord Swann in describing some of the problems that they have in giving £41 million a year away. One of the points, of course, that he made, which is an obvious one, is that such Foundations as Wellcome Trust and the British Heart Foundation should not be put in a position of underwriting posts which Government is not willing to pay and should not have to pick up the tabs which Government is not facing. Government really ought to be responsible, in my view, for this very important introductory period into medical research.

Baroness Lockwood

250. May I ask, Lord Chairman, because Professor Oliver did not really answer question (a) of our questions—you started about those who wished to pursue an academic career. Are there problems

[Baroness Lockwood *Contd*]

also in that sphere? What you seem to be describing is a very rigid system where you go up either the academic research career or you go into the National Health Service and in between you do have the university system to strive to, which is also very difficult to get into. Would it not be better if there was movement and more possibility of movement? Because the kind of situation you are describing of a three year or even a five year contract means it is very difficult to get someone who has got a tenure or has got some security to move out.

(Professor Oliver) Absolutely right. Far, far more flexibility should be made available between these rigid systems. I am describing a rigid system because that is what it is, I am afraid. Taking the issue of research, if there were more exchange then it would give the clinically orientated man an opportunity to go into basic science for a period of two or three years, maybe even to get a PhD, and then come back into the National Health Service. But if you have a situation where there is immediate tenure at, say, age 27 or 28, in one structure and not in another then it is obvious which one the majority will tend to go for. I used the word . . . I think a number of these potentially very good young men and women are actually being "seduced" into the Health Service because they cannot afford not to go in.

Chairman

251. What changes would you like to see, Professor Oliver, take place?

(Professor Oliver) I think Professor Kennedy wanted to say something. There *must* be more posts—not necessarily a new career structure, although I would personally rather like to see that—to allow this exchange between academic medicine and the practice of medicine. There are far too few. The Medical Research Council, regrettably, can provide very few at the moment and, as I say, the foundations are doing their best. I think that is a major contribution. If Government were able to provide a much broader base between the university structure and the Health Service for such young people, it would be a tremendous improvement.

252. I was wondering how, in fact, that would be done.

(Professor Oliver) There are two ways. I think universities could probably be the best investment because the Health Service afterall is, by definition, a service and we are concerned with research potential. If there were more university posts made available and these posts are related to clinical research, that would be a huge contribution. An alternative way, which I personally would like but I am not sure everybody does, is the thought of providing, as is done in the United States, a career structure for these young people. The National Heart, Lung and Blood Institute, for example, which is one of the major Government activity Institutes in the United States, actually has career investigator posts. They are not university or Health Service posts, they are at junior level to begin with and do not provide security: they become progressively more senior and provide tenure at 45 or so.

253. There are systems which would do that?

(Professor Oliver) We do not have a method of doing that.

254. The impression one gets is the Government is very reluctant to, what you might call, hypothecate money. The MRC or the UGC may say "It is up to you" or it is up to the individual university; they are reluctant to say "You will spend that money on such-and-such".

(Professor Oliver) There could be two or three ways of doing it. The Government might give more money to the universities for medical research. I think that is one way. Alternatively, consider the possibility of providing some form of career structure through the Royal Colleges (and this is attractive to a number of us based at Royal Colleges; I know that my counterpart in London, Professor Hoffenberg, with whom I have worked rather closely on this subject in academic medicine, shares this view) of underwriting and some such structure. Obviously we would like to work it out in greater detail.

255. Has the Royal College made the points to the Government?

(Professor Oliver) There is a paper of some substance coming out in about two or three months' time from the London College—I happen to be on that working party—making just this point. "The future of academic medicine" is the title of the paper.

Lord Kearton

256. Is the present uncertainty leading to a fall-off in applications to do clinical research? As I understand it from other information we have had, men can be doing junior clinical research up to the age of 30, and their salaries if they are lucky are about £10,000, which is peanuts in the present day and age. Then we are told he cannot move into an academic post because the number of positions are going down, so the end result would be any chap of 24 or 25 starting off must say, "Where am I going?" and therefore, unless he is immensely keen on the subject, he is going to say it is not a sensible option. The question is are you finding the number of applicants coming forward is going down?

(Professor Oliver) I am doing all the speaking. I must get my colleagues to do it. I think there are two points there. I have already indicated that there is less tenure in university posts or research posts, which is one factor operating rather strongly. Another point is that the salaries have very often been lower. Government has delayed pay awards to achieve parity between academics and the Health Service several times. This has caused a lot of unhappiness and loss of morale—morale has gone

[Lord Kearton *Contd*]

down quite a lot as a result of the inability or unwillingness of Government to maintain academic salaries. They have done so recently.

Lord Hunter of Newington

257. Does Professor Kennedy hold the same view?

(Professor Kennedy) Yes. Could I look at it from the point of view of who does medical research? The kind of medical research I am talking about is clinically based research rather than basic preclinical sciences, because I think people will be better qualified to talk on that, so we are talking about research based on clinical observations and laboratory-based in our teaching hospitals and universities. Traditionally, there have been three pillars, as it were, on which this has been based: academic departments—I am head of an academic department in medicine and Professor Oliver one of cardiology; secondly, there are the NHS Consultants who work in our major teaching hospitals. Tom McNair is an example of that, a practising surgeon in a teaching hospital. Thirdly, there is the MRC-funded, specifically for research with a clinical basis. My problem is not any problem that arises from the Royal College's approach to these, because these individuals all are *ipso facto* members or fellows of our colleges, and the colleges try very hard to write into the regulations for training programmes a component of flexibility. People are positively encouraged to spend a certain proportion of their time in the first phase of training and in the second phase of training and are given an allowance in a four-year senior registrar period of time for up to two years spent in research. People are often now not taking that up with the avidity they took it up previously, because they see that if they do this, unless they are going to be a very, very high flier, whose future is probably secure, then they are running a risk of appearing less well-trained for a NHS post than otherwise, because they may be a little bit short on clinical skills, on how to operate; they have been aside in a laboratory, and when the majority of posts in the Health Service are of course clinical posts, they are not looking for researchers. The researchers are under five or ten per cent of the population of the numbers we train, so the bulk of people will go for safety. I even take it further. We find in a big medical school like Glasgow, where we produce 200 graduates a year, many of our postgraduates are now not even considering a career in hospital medicine at all; they are heading towards general practice, and after a three-year period of rotating junior hospital posts, they go into general practice because they are getting security at an earlier age—professional security and financial security—and they are getting an increasingly interesting job to do and, I may say, an extremely important job to do. I think we should have well-trained GPs, but many of our prize-winners are now electing to do that whereas previously they would have been electing to go either to an academic career, an MRC career or a teaching hospital career. I think there are so many pressures financially on these three limbs.

Baroness Lockwood

258. By opting to go into general practice—Lord Rea will forgive me—with all due respect, that is then, as it were, the end of their career prospects, is it not?

(Professor Kennedy) In research perhaps.

Lord Rea

259. Is this as it should be? Why should the good graduates who are opting to go into general practice not also have the opportunities to train in research methods that people who stay in the traditional hospital situations have? This is a lack, is it not? Do you think something could be done about it, and if so, what?

(Professor Kennedy) Yes. As I understand the training programme for general practitioners, it does not include research; it is not written in the way it is for hospital and academic staff. That is the first point. Secondly, I would doubt what people could do in general practice in the way of research. There are some glorious examples where things can be done. The person who picked up the thalidomide deformity was a general practitioner in Australia, Pickles working in Yorkshire did enormously important work on the transmission of infectious diseases, but the hard core remaining problems of what causes cancer, heart disease, people's brains to fail as they get older—I do not think the answers to them are going to come out of general practice.

260. But there are some emerging lines of research, are there not, particularly to do with the application of research findings to practice and Health Service research into medical care which actually do fit in very well with a general practice viewpoint?

(Professor Kennedy) Yes. I have a comment on that. I think one of the deficiencies of the system, of the health care system, in the United Kingdom—and I think Government has a part to play in this deficiency—is the slowness with which we implement and transmit into practice proven things that are of benefit in health. One only needs to take cigarette smoking or consumption of alcohol to see the slowness with which that message, which is clear and absolutely uncontroversial, is transmitted.

(Professor Oliver) Might I come back to an unanswered question? We got slightly off on to general practice. I say that to have an MD, in other words to do a thesis, to take the time to do a thesis, which will probably be three or four more years, is a positive disadvantage for recruitment into the Health Service at the equivalent age. When we were learning our way, we did our postgraduate degrees, our MDs. That was part of the deal, and one would not get into an academic position if one did not have MD or PhD or an alternative. To do that now cuts very little ice in the health service. He or she will find they have lost out in various different forms of training programmes because they were

[Lord Rea *Contd*]

spending three years on their MD. The MD is almost a pejorative award in that sense.

Chairman

261. When you think about a post in the Health Service. Do you mean going into general practice, or do you mean going into hospitals?

(Professor Oliver) Going into hospitals. I was going back to the point about the Health Service, and I think it was Baroness Lockwood perhaps who raised the question about the ease with which people can transfer back from an academic structure into the Health Service. One of the reasons why this is difficult is that a thesis takes time (after all, it will be the basis of much of the papers that he will be writing; it will be the basis of his future reputation; it will be the basis of the excitement he has in the subject in the future) and if he spends too much time and remains in an untenured post, he then has a lot of difficulty in going across to the Health Service.

Chairman] The appeal seems rather to go into general practice.

Lord Hunter of Newington] May we ask how this fits in with the training of surgeons, because clinical research training—or research training—has to be applied to, and this could make it more difficult, perhaps, to be trained as a surgeon.

262. I think that is a very important point but I would like to go back on one point about the young men who are attracted to go straight into practice rather than continue with a period of research. Would they all benefit from a further period of research or would only the best benefit? How great is the loss? Will they all be that much better?

(Professor Kennedy) Some of our medical graduates are not particularly interested in research. I think it would be a mistake if they were obliged to do it.

263. That will be a waste of resources?

(Professor Kennedy) Yes, so I think there should be a process of selection and control of posts. To have it spread equally across all the 4,000 graduates qualifying each year would be a waste.

264. So a proportion will go for research and of those a proportion will go into general practice, and then a proportion will go——

(Professor Kennedy) Included in that proportion it will be very attractive indeed for some who were ultimately to go into general service to have the opportunity to do some research.

265. There is no particular incentive. You would say to that young man: "You have got one choice".

(Professor Kennedy) One young man said to me the other day he was wondering about going into academic medicine, but after all how many posts were there going to be in future? What is the future of some universities? Whereas the Health Service is a better bet. It is safer.

(Professor Oliver) You will be hearing this afternoon from the Deans and Presidents who have problems with undergraduates. As a teacher in a teaching hospital I am progressively more and more depressed by the decreasing enthusiasm of exceedingly bright young men and women. They are exceedingly gifted people. The undergraduates at this medical school—and I am sure in Glasgow—are more and more gifted in terms of the standards of entry. They are very excellent young men and women; a fraction of the percentage of the community and we are fortunate to have them coming into medicine. As they go through medicine they get progressively more and more concerned about their future and lose their excitement for medicine. This enthusiasm to develop ideas begins to wane. That is a disaster.

Baroness Lockwood

266. Can I just ask how you see the career prospects of the general practitioner? I accept that the general practitioner is a most valuable member of the medical community but in envisaging career prospects do you see any possibilities for the young doctors who opt to go into general practice perhaps at a later point being able also to come back and do some research? There surely is an advantage in this kind of exchange. After all, if a person has had experience of the practical application of medicine and seen some of the problems—perhaps some of the problems that are not being coped with—if the bright people are going into general practice then surely from the academic point of view there is also a need to keep in touch and bring them back in.

(Professor Kennedy) It would be very attractive if that could be devised. I suspect too many of them go into general practice. They go into practice two or three years after graduation and they will not have acquired the skills for the hospital physician, or surgeon, to enable him to come back, say, in his mid-thirties, and I cannot see that he would be prepared to go back to the beginning of the training ladder and train to be a surgeon or an obstetrician. There are exceptions but they are rare.

Lord Rea] There is a course starting in London, an MSc for general practitioners who wish to go along that line, just beginning. We have not yet seen the results of that.

Lord Kearton

267. As an aside, are you going to up-date your practitioners?

(Professor Kennedy) We are, perhaps, not the right Presidents to whom to address that; there is a Royal College of General Practitioners. They are trying hard to do that and have on-going processes for up-dating but usually it is the practising physicians and surgeons who do the teaching.

(Professor Oliver) You have got to get a balance. The best research worker, is one who has had a period of time with patients. To go entirely, very early on, a year or two after qualifying, into pure academic medicine is not really the category of

[Lord Kearton *Contd*]

person we are concerned about because they are going to university posts anyway. The individual we are concerned with is this person who has got a lot of potential who is going to be both academic and clinical.

Chairman] Could we come back to Lord Hunter?

Lord Hunter of Newington

268. It is an enormous territory, but at one time almost all the research work was done by the surgeons. Now I think we should hear a little of what happens in the surgical world.

(Mr McNair) I agree with much of what has been said, sir, but to answer question 1: "What problems have you encountered in the development of regulations for accreditation ...", without doubt we have had problems because of the relative inflexibility of our training programmes. For example, in orthopaedics as a speciality, people will accept six months in research, whereas most of our general surgical programmes will accept a year. Not any more. So this has been a restriction.

Chairman

269. This is purely a period of time rather than quality or weight of work.

(Mr McNair) Purely the period of time, which precedes consultant appointment or senior lecturer. Twelve months is the maximum time allowed by the Joint Training Committee.

Lord Rea

270. If they do more it actually counts against them?

(Mr McNair) No, I never said that.

271. It is a maximum of twelve months allowed?

(Mr McNair) They may do two years, but all the Joint Committee will allow for in their accreditation certification, so to speak, is twelve months.

272. As against other work they might be doing in this period of time?

(Mr McNair) For example, an orthopaedic surgeon is required to do three years of higher training, of which up to twelve months may be in research but not more than twelve months. He can do two or three years.

Chairman

273. He can only get credit for one.

(Mr McNair) I think the surgeon believes it is in the best interests of young surgeons that all our young trainees be exposed to laboratory techniques. We cannot make it compulsory but we would like research exposure. I do not believe these are young people doing original work, they are simply people seeing how the methodology works and the problems encountered by their slightly older colleagues in pursuing original research. At a later stage there is a small percentage of the profession (and it must be less than 10 per cent or even 5 per cent) who can, in fact, indulge in profitable original research.

274. They have to do this minimum period of research in order to get their qualifications?

(Mr McNair) They do not, sir, they do not.

275. I thought they had to do six months.

(Mr McNair) No, sir.

276. They need not do any at all?

(Mr McNair) They need not do any at all. I tore out of a magazine just yesterday an article. One of the problems we have had is the problem of university and research establishments creating excess jobs for the purpose of research; funding jobs which are not numbered in our career structure. This has been much less so in Scotland than in England and Wales, with respect, sir, in that our advisory committee of medical establishments has been a much more effective manpower control for these young people than has occurred in the south, but there have been cases, too many, in the past which have soured the relationships, I believe, of our universities and research departments with my younger colleagues particularly. I tore this (*indicating same*) out of the BMA News Review which arrived two days ago. It is published by the BMA. It is from some young man, saying, "However ... the report had succeeded in exposing an excess of senior registrar posts in research and academic medicine as compared with the expected number of career outlets." Those are not my words but BMA words, and this is one of the problems.

Lord Hunter of Newington

277. There are no career posts in research in the Health Service?

(Mr McNair) No, none at all.

(Professor Kennedy) The nearest is in the MRC, once a certain stage of seniority is acquired in the MRC.

278. Should there be particular attention drawn to the research and development side of the Health Service the desirability of some research posts in the Health Service?

(Professor Kennedy) If I might give a personal answer to that, one of the dangers I think in putting people full-time into research is that people tend to have the brightest ideas when they are young, and as they go on they tend to run out of these bright ideas and there is nothing worse I think than having a research team filled with people who are burnt out and past it and what do you do with them. I think I personally am not terribly enthusiastic about a separate career, unless with a rigorous screening at 35 or 40 we give them the option to go on because they are still active—that would be the minority, I feel. We should move them sideways, but there is not the flexibility to move them sideways.

Chairman

279. In clinical research they are getting down to a very fine focus, are they not? But would you say

[Chairman *Contd*]

that would hold in something like the health service research, where you are having a wider and wider field; the more experience you get, the better you become?

(Professor Kennedy) No, indeed it would not except in the Health Service in operational research in epidemiology, for example, increasing experience is very valuable. I was thinking of the new ideas, the scientific level relating to clinical practice; I think you need young people who have gone through universities where the new sciences—we on this side of the table are out of date as regards science—the molecular biology that is being taught now—we would not be able to pass the exams! There are really new people coming through with these things, and one of the problems I have in my academic department is that I have the greatest difficulty getting in new blood because there are not the posts there that there used to be. It was very attractive before to pick every two or three years some young high flier with the brightest, latest ideas in research techniques and scientific knowledge. It is difficult to get them in. Every time I have a post it is frozen; somebody gets promoted and I lose my post.

Baroness Lockwood

280. Where did you get such people from previously?

(Professor Kennedy) From our own United Kingdom graduates, perhaps from another university.

(Professor Oliver) The point that you pose, if there were to be R&D posts within the Health Service, that individual might not burn out with ideas if he were working with a good academic department. The continuation of ideas will depend upon the activity of the head of department and the senior people, or should do.

(Professor Kennedy) And the intermittent infusion of new blood.

(Professor Oliver) He must not work on his own, otherwise he will be burnt out; if he is working in a group, he should not be. Another point on this subject: how do you provide a base for these young people? I am concerned, and this college is concerned about what I might almost call the intrusion of the pharmaceutical industry. There is no doubt that many departments recruit young men into positions which are funded for three to five years by the pharmaceutical industry because they have no alternative. As head of a university department, I have to go to the pharmaceutical industry to get funds to provide for a bright young man. If somebody from my medical school is coming along and has ideas I would like to see him develop, I have no flexibility in finding funds for him, so I have to say either, "I am sorry. There is no post for you here. Off you go to the Health Service" or "Off you go to industry"—which is the pharmaceutical industry more or less—"and get money from there." The problem about pharmaceutical industry money is that it is always, or almost always, related to the interests of that pharmaceutical industry.

Chairman

281. What about multiple funding?

(Professor Oliver) I think most departments do this. I have multiple funding—the Heart Foundation, Medical Research Council, the Wellcome Trust, and also the pharmaceutical industry.

282. That is not a bad combination.

(Professor Oliver) It is a good combination, a very good combination, but that is perhaps because we are in the privileged position of being senior professors in well-known university medical schools. I am not sure if that is the position that applies outside so much, and I think that many smaller groups and smaller hospitals who would like to recruit young men are obliged to do so on soft money. I have no objection to soft money, but I do have objections to the way the research may be orientated because of the soft money.

283. Could I raise a point which I would like to get your opinion on, because it has been said to us quite forcibly in some of the evidence that one of the problems in the career structure is the regulations of the colleges themselves. Would you agree with that?

(Professor Oliver) I think it must be a comment related to the JCHMT/JCHST structures, the Joint Committee of Higher Medical Training, of which the colleges are only one part. I do not think that the *colleges* are restrictive; at least, I am unaware of it. These two bodies, the JCHMT and the JCHST, are critical bodies concerning the accreditation system without which a young man or woman cannot become a consultant in a major hospital, so they are the key bodies, with which the colleges are related but not responsible. There is no doubt in my mind, which is why I mention it—I am the incoming chairman of one of these bodies—that they are far too rigid. They do not provide sufficient flexibility. We always seem to have a fight between one group of doctors, who say, "This man must have adequate training in X, Y, and Z and he cannot go off now into some research component until he has had that adequate training," compared with another group who say, "Come on, give him a chance. Let him go off and he will have to chance his arm later on, and let us hope he is adequately trained." More flexibility is coming in but I think your point is probably right: I think they have been too rigid. I do not know about the Royal College of Surgeons.

(Mr McNair) I thought I had said yes already, sir, but yes.

(Professor Kennedy) There really is a real conflict here, because I am sure the most important thing the public would want if they have a consultant looking after them for a disease, let us say a heart attack, is that "this chap knows what it is all about; he has seen enough of them before to be able to handle it properly," and there are these constraints that to be trained, to be ready for a consultant post, there is a certain minimum, quite a large amount of experience that that person has to have. It is a

[Chairman *Contd*]

question of getting a balance. I think too many people are playing safe and going for that only and ignoring research, which is a permissible option and is not a requirement.

Lord Kearton

284. Are there more people engaged in research now than there were five or ten years ago, or less people?

(Professor Oliver) Fewer.

285. The number is now going down?

(Professor Oliver) Yes.

(Professor Kennedy) The answer comes out yes. There will be fewer people engaged in full-time research, there will be fewer people engaged in academic departments spending perhaps 30 per cent or 40 per cent of their time in research, and the NHS consultants in teaching hospitals who previously might have spent 5 per cent, 10 per cent, or 15 per cent of their time will not be able to do that because of the pressures of their National Health Service responsibilities.

(Professor Oliver) There is no dispute there are fewer in absolute terms but I am not convinced there are fewer who would not want to try.

Lord Rea

286. I think the Committee ought to be able to find (I am not sure it exists somewhere) the trends over the years. Are they published somewhere, or does each university have to be approached for their own figures? Can you speak as to that point?

(Professor Kennedy) If I might start. Both Professor Oliver and I are members of the Association of Clinical Professors of Medicine and they have submitted evidence to the Committee. Of that I know. I was involved in the preparation of that and they have given figures and quoted chapter and verse.

(Professor Oliver) There is data available which they ought to be able to provide.

Lord Kearton

287. Pursuing this question, the Government seems to feel there have been too many doctors being trained anyway. They are reducing the intakes of people.

(Professor Kennedy) If I might comment on that. At the present moment we produce 4,000 graduates a year coming out of the system. The intake to medical schools is secure for the year commencing 1990 or 1991, which means the output will be secure until 1995 or 1996. There is a Government Committee now looking at it to advise on what the intake to medical schools from 1991 onwards is. That is a Government thing, it is not for the Colleges. The universities get their quota from that agreed total number.

288. If that is so then why is it there is a reduction in posts for the National Health Service and in hospitals? Why are senior posts going down, both in the National Health Service and with you?

(Professor Kennedy) Reduced funding is the answer for universities, quite clearly; an absolute reduction in university funding. There used to be something called Protection of the Medical Faculties in University and that was removed, as you know, I think.

Chairman

289. The protection being they would not be affected by it?

(Professor Kennedy) That is right.

(Professor Oliver) Also, there used to be quinquennial and later triennial financial agreements. Now it is annual and forward planning is very difficult.

Lord Hunter of Newington

290. The Government has a career structure at the moment and there are a certain number of training posts for surgeons which I understand (correct me if I am wrong) have been agreed by the Colleges and the other medical bodies. Yet there is no provision made in there for the kind of activity which we were hearing the other day that the Wellcome Trust is providing substantial posts for. What is going to happen to these people after five years if they want to keep consultant status?

(Professor Kennedy) At the present moment in time I am unsure, and that is why many of them are not coming into Wellcome-type posts or into university posts; because they see a further reduction ahead of them in the number of career opportunities.

291. Is it true that the Government, at the beginning of this exercise, increased the number of consultant posts? In other words, they improved the consultancy prospects but then cut the number of training posts. Is that correct?

(Professor Oliver) The second part of it is correct. They have hardly increased the number of consultancy posts. There has been quite a lot of publicity about the fact they were going to but it was very small.

292. They did not do it?

(Professor Oliver) The number was very small and lower than first proposed.

Lord Kearton

293. The same applies to Registrar posts, I understand.

(Mr McNair) Three Government reports have said the number of consultant appointments should rise by 4 per cent. In Scotland it has never risen by more than 1.6 per cent per annum and hopefully, in England and Wales, they have extracted a promise they will achieve a 2 per cent growth rate. This has been refuted by the Home and Health Department. I am not arguing whether these are right or not, I am giving you the figures which have been published. I would like also, if I may, to make something quite clear about the training Committees; the JCHMT and ST consist of the Royal

[Lord Kearton *Contd*]

Colleges in coordination or in conjunction with the Association of Professors of Surgery, and the specialist associations, such as the cardiac surgeons and so on, across the country, but all they do is define the training programmes; the minimum training programme for any young man. That young man can get to the end of the "snakes and ladders" quicker if he avoids research. Alternatively, if he does take an extra two years and do research he gets credit for four, but when he comes to the Appointing Committee the tendency is it is the chap who has done more of the clinical practice who is going to get the votes.

Chairman

294. He gets no higher rating or anything else? Or any monetary advantage?

(Professor Kennedy) It might influence where he gets his consultant post. If he has done some research he is perhaps more likely to get a post in a prestigious teaching hospital than a district general hospital.

295. So there might be an advantage there.

(Professor Oliver) Returning to the point my Lord Hunter made just now, it actually bears on the fifth question which you have asked us. I have not discussed this with my colleagues but they know my opinion now, I think. "What are your relations with universities and with the Scottish Home and Health Department . . ." in a sense, "What influence do the Royal Colleges have on the Home and Health Department in terms of the numbers of consultants and doctors?" We—a number of us—are concerned that the relationship between the Royal Colleges and the Health Departments (both in Scotland and in England and Wales) is not probably as tight as it should be. In other words, what representations we would wish to make have to be done through another body, which is diluted by the British Medical Association and diluted by the Joint Consultant Committee. So by the time our particular point of view—which we hope has been well thought through—gets to the Department of Health or the CMO it may not necessarily be the same. We do not have quite the relationship that we would like. Is that fair?

(Professor Kennedy) Yes.

Lord Hunter of Newington

296. Do the Colleges do their best to steer universities and the Health Departments in the thinking about research priorities in the Health Service? Do you express views about the needs of the Health Service in relation to research to the universities and the Health Departments?

(Professor Oliver) Not to the universities. The universities pursue their own programmes and we are not involved in picking priorities for universities. Indeed, university research programmes relate very much to the strength of the individual department and professor and group.

Chairman

297. And their ability to get support from the MRC?

(Professor Oliver) Absolutely. The point I am making is that we would wish to suggest priorities to the Health Departments but this is not always very easy to do.

298. They made the point in their paper submitted to us about the appointment of their part-time Chief Scientist in the established Chief Scientist Office. Is this something which has helped? It has been in now since 1973, so it is not all that new. Is that a useful thing to provide?

(Professor Oliver) I think it undoubtedly has been. Undoubtedly.

(Professor Kennedy) Yes, I think so.

Baroness McFarlane of Llandaff

299. I wonder if your physician papers and the researches you do are not used to influence the Health Department at all.

(Professor Oliver) If the Health Department is bothered about them I suppose, yes.

300. You do not knock on the door with them?

(Professor Kennedy) I think we do. We had in the Glasgow College just two or three months ago a symposium, which was very well attended, on the problems of the practice of medicine in deprived areas, the inner cities, and the London College is having such a symposium next week.

(Mr McNair) I must give credit to the Home and Health Department. There is a committee set up by the Home and Health Department which handles broad issues such as these and the reports are constructed: but of many files sent in most of the reports are filed away and never see the light of day.

Baroness Lockwood] Professor Oliver in his paper talks about the establishment of a permanent think-tank. I think here you are suggesting that the priorities should not be dertermined, as you said earlier, by the pharmaceutical companies, and so you make this suggestion on page 3 of your paper. How would you see that funded and what kind of input would you think you would be able to have?

Chairman

301. I am glad you raised that point. I think it is a very important point. Can I supplement it by saying the evidence that has been presented to us seemed to be very much against that idea; money must be given where it is justified by the merit of the proposal rather than thrown at a problem on the basis that if you throw money at it, it will be solved.

(Professor Oliver) This is the traditional orthodox and conservative attitude of the medical profession. This is precisely what has always been said. I do not agree with it. The Medical Research Council, on which I served for three years has, going way back to the days of Sir Harold Himsworth always adopted the line that it will fund opportunistic research, in the sense of taking the opportunity

[Chairman *Contd*]

as and when it is put forward and that is the end of their responsibility. That is good and bad, because alpha plus people are funded but there is no body that looks at the policy or priorities of medical research in the country. The Medical Research Council does not. What the Medical Research Council does is review programme grants and those who apply. They do not regularly review priorities and future needs. They have only done it on the basis of the crisis such as AIDS for example. There is not an overall scheme. Lord Rothschild, as you will be aware, set up a policy, which did not work particularly well. I suspect the fault lay with the medical profession; I think we were resistant to it. What I was trying to suggest was that a component—not the only component—of priorities for medical research should be thought through continuously on a central government basis. It may not be more than 25 or 30 per cent—and no way should opportunistic funding be removed—but it seems to me and has always seemed to me that Government has a responsibility to consider major disease problems and the balance of community needs.

302. It would not really be Government, would it? The Government presumably would set up a committee of the most highly qualified people in the profession to advise them.
(Professor Oliver) Indeed.

303. Would they be able to agree on that?
(Professor Oliver) I think so.

304. Would the best of friends in the medical profession themselves be able to agree on the priorities?
(Professor Oliver) I think they probably would. The medical profession has come under a fair amount of attack in the last ten to fifteen years and since the Rothschild exercise I suspect they have got their act in better order than they did have.

305. The people who are against the idea of central planning and research, say that they have all these advisory committees on which the best people in the medical profession sit and their views are coming forward all the time, and there is really nothing more to be served by getting a few of them round the table, and say you look at the areas of research which have been neglected. They say such ideas are coming up all the time.
(Professor Oliver) I was upon the Systems Board, which is the principal granting body of the MRC, for a period of three years. We had no policy. We were given no policy by the Council itself. We gave money, which was not a great deal, to the best applications purely on a chance basis of those applications that appeared. We were not in a position of saying mental illness needs more than skin diseases for example. If we had no applications on mental illness then mental illness would not get any money.
(Professor Kennedy) I think it is an attractive concept that Michael Oliver has raised, but my concern is that it has been tried and has not worked. I would be more inclined to try and analyse why it did not work. After the Rothschild Report in 1971 or 1972, something like that, 20 or 25 per cent of the MRC funding was taken aside and given to the Health Service to work on commissioned projects. The thing got lost in the sands somewhere, and a few years later the money came back to the MRC. That is interesting. Why did that happen? It was quite a large sum of money available, but it did happen, and it is puzzling.

Chairman] The case was presented to us—I cannot remember by who—of the American situation, when President Kennedy or someone decided that a particular medical problem had to be really tackled and gave a direction that *this* must be done and funds would be unlimited. It was said that it proved to be a big waste of money.

Baroness Lockwood] Was it not put to us, Lord Chairman, that the DHSS said that it decided that the MRC was a better body to use this money than the Department and therefore they gave it back to them?

Lord Hunter of Newington] Yes, they did, on condition that there were regular meetings and cooperation between the Health Department and the MRC, so there is a steady feed of information about needs and priorities from the Health Department to the MRC.

Lord Rea] Does a new body need to be set up in order to supervise this incorporation and setting of priorities or can the existing organisations collaborate under their existing titles and existing arrangements in order to do this? One of the things this Committee might be asked to suggest is should a new body be set up.

Lord Hunter of Newington

306. We are talking about an interdepartmental system; there are two departments of the Government involved in this. I think Professor Oliver's suggestion is a good one to think about, but I think there are a lot of aspects we want to think about rather than pursue it at the moment.
(Professor Oliver) May I comment? The actual practical way the Health Departments influenced funding was that every day we sat on the MRC with a number of grant applications we would have, say 25 grant applications and eight of those might be starred as being the preferred choice from the Department of Health, so we had input that way. But that preferred choice could be ignored, and quite often was ignored. It would be considered very carefully and if two grant applications were equal in merit, then the preferred choice would probably be given.

Chairman

307. Would the preferred choice be because it was in a field in which they felt more research was

[Chairman *Contd*]

needed or because they thought it was the better of the two submissions?

(Professor Oliver) No, because they thought it was a field where more research was needed. May I comment about Lord Rea's remark? When I propose or suggest that there might be some standing committee or think-tank, there would be no reason whatever why this should not be an expanded responsibility of the Medical Research Council, and it probably should be. My concern is that all the MRC actually does at the moment is give money on an opportunistic basis, when it should be sitting back and looking at the whole aspect of priorities.

Lord Rea] A suggestion from York was that there be a Health Research Council in addition to the Medical Research Council and that this should be composed not just of medically qualified people but there should be a sociological input and an economic input from other disciplines as well.

Lord Kearton

308. My Lord Chairman, I wonder whether I could change course slightly. Question (g) was "Is research reflected as it should be in actual improvements in patient care or health education?" Professor Oliver gives the answer "No", and expands on that "It takes many years ..." etc. etc. and makes the point, really, that a tremendous amount needs to be done in order to make what research is already carried out more fully reflected in patient care and in terms of community health. This seems to me to be what the whole priority is about.

(Professor Oliver) Of course, because who are we concerned with but the patient who is diseased?

309. Arising out of that, we had submissions from a number of Regional Health Authorities which, to put it mildly, varied a great deal, and one wonders who monitors the way in which different Regional Health Authorities carry out their responsibility, as it were, from the highest medical standards. This seems to me to be of enormous general public interest.

(Professor Oliver) If I can elaborate on this, repeating what I said, if you have a penicillin type situation then it becomes fairly obvious (even if the benefits of penicillin were not obvious for some years). When something really dramatic occurs in medical science and medical research, then I think the lag period is going to be short. But this is very rare. In my speciality, cardiovascular diseases, there are any amount of new drugs for heart disease. These are being developed all the time—cousins of the last drug as it were—but all have to be proved to be beneficial and safe through formal clinical trials. Many of the over-enthusiastic reports that have appeared have been proved to be wrong and it may take five or seven years for this to be sorted out, paticularly in the field of drugs. The public does not benefit rapidly.

Chairman

310. If you take your point about your "think tank": a field is identified and you say to the MRC, "More research is necessary in this area". On their thesis they would say: "You will not get anything out of that because you have to have the people to do the job and you cannot tell the research worker what to do; he has to have the ideas himself". So what in fact would happen if they said "This is what is needed and here is some more money"? Where do you go from there?

(Professor Oliver) If a priority were clearly identified I would expect the MRC to say very loudly "We now wish to establish a new MRC unit on memory storage in advancing age", or something like that. "This is where we are going; we are in business to learn about the deterioration of memory and the aged. This is our priority". The MRC will have been seen to be underpinning that area and I would be very surprised if it then initially did not recruit a lot of people.

Chairman] Would they recruit the people who had the research ability and the imagination or would they merely recruit the people and say "There's some money, let's get on with it"?

Lord Hunter of Newington

311. And where would the money come from?

(Professor Oliver) It should be new Central Government money.

Lord Kearton] In research work one always tried to find a problem one thought one could solve. It seems to me there is an enormous area which is not being attacked because people do not quite see how to tackle it.

Baroness Lockwood] Is it new money, or would you think in terms of money on the Rothschild principle?

Chairman

312. Let us deal with new money. I am looking to be convinced that there is a case for this "think tank", bearing in mind that views have been strongly expressed to us that you really will not get research that way round.

(Professor Oliver) I need to put back to you the fact that if the existing structure is such that priorities cannot be identified (which is what I feel it to be) then how are we going to develop new ideas in a broad area which can be identified by the medical profession as being a Cinderella? How can it be done? At the moment there is no system of doing this.

313. You do not think it comes up naturally? You think it is better for, shall we say, a bunch of civil servants in Whitehall to say "This is an area which is not being properly covered" rather than some bright young man in the university saying "By jove, here is something. If only we could find the answer to this one"?

[Chairman *Contd*]

(Professor Oliver) I am not suggesting either of those; I would hate to think civil servants were doing it and I would equally hate to think bright young men were doing it. What I am suggesting is that, if you like, for the sake of the people who are here today, the Presidents of the Colleges, the existing sector of MRC, the SERC and the AFRC and organisations like these, would get together. They could provide advisers in clinical research and who have a lot of responsibility for progress in controlling disease. If you bring them together frequently, because they do not come together, then surely something would come out of it.

Lord Hunter of Newington

314. Surely you are talking about the ABRC?
(Professor Oliver) In a sense.

315. Is it that the ABRC has a much wider remit than you had in mind?
(Professor Kennedy) I wanted to pick up Lord Kearton's enquiry, which was, really, are advances getting through to the market place quickly enough. You have got to make sure it is a safe advance. There is a risk of going off too quickly and you can go up the creek. Opren is a good example, where it was seen as an advance and it turned out to be hazardous. Having said that, I do not think there is an undue delay in advances that are related to drugs or to techniques being implemented. I think doctors are actually very fast indeed at getting in on the act. I think the limiting factor is on resources. I was involved in developing kidney machines and kidney dialysis and so on. We had this enormous problem in the late fifties in getting enough resource together——

Chairman

316. This is kidney machines?
(Professor Kennedy) Machines, personnel and space in hopsital. So, similarly, when one comes to other things. Supposing there is a really effective drug made available for AIDS? It will be available as fast as the drug companies can make the stuff and as fast as the Health Service can pay for its use. I do not think there is a delay. Where there *is* a delay, and one that concerns me, is the implementation of less dramatic things. The dramatic things go through because there is a hooha made about them; it is the less dramatic ones I come back to —control of cigarette smoking and alcohol abuse and so on.

Lord Kearton

3317. And nursing care.
(Professor Kennedy) Yes, these less dramatic things. If you were asked to create a league table as to how the health services were actually productive across the country, there are some awkward things to face, the major deficiencies, and some people do extraordinarily well across the board, some very well, and some pretty poorly.

Lord Hunter of Newington

318. The curse at the moment is hepatitis B. You can eliminate it with a diagnosis and treatment.
(Professor Kennedy) At cost. There is a limited amount of money available through the Department of Health, so you have to control the number of people who get this course of innoculation, which costs about £80 or £100 per person, and probably millions of people in the world should have it.

319. The money that the Government put into mammary screening is minimal—one centre per region, which is really no help.
(Professor Kennedy) Yes. Again, it is really quite complex, because it is a changing scene. In the profession we are our own worst enemies; we produce something new, whether it is kidney machines or kidney transplants or operations for heart attacks, and then to implement these you suck up and use up a significant amount of resources, which has to be new resources, because the older diseases have not gone away; they are still there. I do not think governments have really been able to grasp this nettle, that you really need absolute growth to keep marking time.

Chairman

320. A point I do not think we ought to let pass as we are in Scotland is this: I would like to know the difference between the way things are done in Scotland and the way things are done in England. Sometimes we are talking about the whole national system and sometimes about what is happening here in Scotland. We mentioned earlier on the Rothschild Scheme and I think, if I understood correctly, you said it worked better in Scotland than in England. You also had some initiatives put forward by your Health Department here on health education, for instance. There are a number of things in Scotland which are different, and I think I want to be sure we learn those differences while we are here.
(Professor Oliver) We have two advantages and one major disadvantage. We are a small country with a different Health Act. We have four medical schools, 5.5 million people, and we tend to know each other. The whole of Scotland is smaller than Birmingham. That is actually a great advantage in terms of interchange.

321. And within that system you gather all the facets and disciplines?
(Professor Oliver) More or less. We more or less know what is going on. That is one advantage. Another advantage is that there is, as you surely know, a proportionately greater slice of the financial cake coming to Scotland than to England and Wales. We have more money—not enough—per head in terms of general health services, but the major disadvantage is we have much, much, much more disease. For what reason is quite another issue, but we have much, much more in the broad sense, whether it is heart disease, cancer, lung

[Chairman *Contd*]

disease, stroke, etc. If we look at the gradient, for example, of death rates from south of England up to this part and even further north in Scotland, there can be as much of a difference as two and a half times. Take stroke, for example: it is two and a half times more frequent in the north-west than in Oxford, and coronary heart disease is two to three times more frequent here than it is in London.

322. Have you no explanation for that?
(Professor Oliver) Yes, of course.

323. It is a matter of research!
(Professor Oliver) We have much, much more disease, and it may be this is the "health divide". It may be this is related to the fact that we have more in social classes four and five here. (I do not myself believe that is the entire answer; there is much more to it than that.) So those are three answers: we have the advantage of being a small country, we have more money, but we have really a hell of a disease rate.

342. I also wonder whether, for the reasons which you touched on, their money is possibly better administered.
(Professor Kennedy) I am of the view that the Health Service functions better in Scotland. I think economy of scale is one thing. We know each other. There is no part of Scotland which is significantly remote from a major teaching environment. If you take the population of Scotland, if you take out the Strathclyde area, Lothian, Dundee and Aberdeen, there is not very many people left; there are about 200,000 left, I would have thought, and these are all within easy contact. There is another interesting difference: private practice in the health service in Scotland is very, very small beer. It is almost a non-event because partly the population is perhaps more class four and five but also many of those who are not class four and five do not have to go private to get first-class medical care in major teaching hospitals.

Lord Hunter of Newington

325. In a reasonable amount of time.
(Professor Kennedy) In a reasonable amount of time.

Chairman

326. Would it be a fact that because of your geography you have really a regional grouping of your medical resources, although not necessarily a formal one? You have four schools but they are close together. In London, of course, we have seen the grouping which is taking place between a number of the hospitals, and it has caused a lot of aggro. At the end of the day a lot of people say it is a good thing, because we are getting very powerful units with greater resources. One might even say—I do not know—that there ought to be more regional groupings. If it is successful in London and it is successful in Scotland, should the same apply in the Midlands and other areas of the country?

(Professor Kennedy) I can see that being an attractive line to pursue, yes.
(Professor Oliver) The Chief Scientist's Office-Mr Munro is here as an observer—disburses pro rata more funds for research in Scotland than England and Wales. No doubt we will get precise information as to how this is acquired. I do not know how it is. We also have the other advantage, of course. Some of us have grants from the Chief Scientist's Office and also one for MRC as well.

327. Are the two adequately coordinated?
(Professor Oliver) Yes.

328. That works satisfactorily?
(Professor Kennedy) There is always cross-representation from grant-giving bodies in Edinburgh and MRC, and between MRC and the major medical charities.
(Professor Oliver) An example of the private practice point is that I am in charge of the Department of Cardiology in a major teaching hospital here, and we have five consultant cardiologists, and two others in another hospital—seven of us. None are in private practice at all, and you would think that heart disease would be an area where there would be private practice, but it is not.

329. Is that by choice or by tradition?
(Professor Oliver) Partly tradition but there was an opportunity a few years ago given to three of the consultants to go into private practice, and none took it. Often—and cardiology is an example—it is exceedingly expensive for the individual practitioner because he has a lot of very costly equipment to provide. That equipment is already available in the major hospitals here, and no individual is likely to be able to establish such a private investment. There is a more efficient health service and someone who has serious heart disease can be investigated at top level within a matter of 24 hours or even less in the major teaching hospitals. Efficiency of the service makes it unnecessary to have private practice.

330. This would not hold in England.
(Professor Oliver) There is another aspect in this which intrigues me, which is that the Scots are fairly canny people. If they are paying their tax, they expect a good return from the Government.
(Professor Kennedy) I do not think you should think that the lack of private practice is entirely due to the high-mindedness of the doctors of Scotland. I do not think many of them would make much of a living in private practice in Scotland; the clients are not there. There is a small population.
(Mr McNair) It is a reflection that the competition of the National Health Service is much better than in the south.

331. We hear terrible stories about waiting lists and so forth for treatments. Is Scotland much better off in that respect?
(Professor Kennedy) Yes.

[Chairman *Contd*]

332. You do not have this terrible waiting for twelve months?

(Professor Kennedy) Another aspect is the question of overseas doctors. (This is not a racist comment.) I am Chairman of the group that screens their entry into this country. There are 20,000 overseas doctors out of the 100,000 on our rolls. There are very few of them in Scotland. If somebody falls ill in Princes Street or somewhere in Glasgow and ends up in a major hospital with a heart attack or something, the chances of them being seen by a graduate from Pakistan or the Middle East are almost zero. They will be seen by a local product and they will be seen by a consultant that night or the following morning, again, by a local product. There are many hospitals in England where that is not the case and that is a significant factor.

Baroness Lockwood

333. Could I just ask on that: this does not quite seem to square up, does it? You say that you have more resources here in Scotland; you also say that you have a greater incidence of disease and illness but you do not have the same waiting lists that are seen in England and Wales. Is it simply because you are more efficient, and would it be better in England and Wales if the Regional Health Authorities were to become more integrated, as you say, as the Scottish one is? If you have got more illness why do you not have long queues, even if you have the resources?

(Professor Oliver) May I suggest you ask our surgeons to talk about waiting lists because I am talking about relatively acute medicine. I am not sure at all about the waiting list situation, particularly for varicose veins or hip replacements. They are still long.

334. Comparatively long?

(Mr McNair) They are not as long as in the South.

Chairman

335. There is one thing which I would like to pursue, if I may, and that is health services research. This is one of the areas which strikes us as being possibly inadequate, bearing in mind the enormous sums of money that are spent in the Health Service. The sums being devoted to finding out whether the money is being spent properly or whether it could be spent better seem to be very small. Would you like to express any view on that? You have had the experience here in Scotland of having initiated education research, I think, and some research into nursing as well, so your views would be very much appreciated.

(Professor Oliver) My view is precisely yours. A great deal more could and should be done to make certain there is a yield, and an economic yield at that, from the vast expenditure in the Health Service. As Professor Holland knows, I have had some interest in cardiovascular epidemiology in my time and I have been disturbed to find that university departments of so-called epidemiology have been taken over by people who call themselves "community medicine specialists". They are usually second-raters, or worse, and they have not actually pursued community medicine research in the sense of health services research. I think the Faculty of Community Medicine had, for a while, the view this would be looked after by university departments but it has not been looked after by them, certainly not up here. The alternative, namely that the Health Board should have proper, established research units, does not apply sufficiently here either but I believe that it is better in Scoland than it is in England and Wales. There is certainly a big place for more investment of time and money in order to make sure that the money in the Health Service is adequately used.

Lord Rea

336. I am just wondering whether Mr Munro is forbidden to speak or whether he can join in the conversation at this stage. I am not sure. It is just that there is a very relevant paragraph in the evidence which the Home and Health Department gave us here: "In areas where the Chief Scientist's Office wishes to encourage greater quantity and quality of research, for example mentally handicapped, psychogeriatrics, community care, etc., professional officers will spend some time giving informal advice on the development of research proposals." How does that work? Does it work well or not? I do not know if Mr Munro can tell us about that or whether the academicians can.

(Mr McNair) The former Chief Scientist will be here this afternoon in another guise.

337. Perhaps that would be the time to raise it.

(Mr McNair) On a different subject, the function of the size of the country, I do believe—I hope my colleagues will agree—that our relations with the Health Departments in Scotland are very much more amicable than in the South. In the South there tends to be an atmosphere of confrontation.

Chairman

338. You have another layer of authority in the South.

(Mr McNair) That is right.

339. You do not have a Regional Health Authority.

(Professor Kennedy) Scotland is a Region.

(Professor Oliver) That goes back to your fifth question about the relationships with the health authorities. Yes, our relationship is more friendly, but it is still diluted by a number of other bodies. It is not in any sense a direct one.

340. I presume a lot has been said on the fact that if more effort and funds were devoted to health service research, it would be self-supporting; large sums of money could be saved. I presume you would think that ought to be done

[Chairman *Contd*]

more in the regional area rather than in the national area.

(Professor Kennedy) If I could comment on this general point, yes, it is important. We have not done it terribly well in the Health Service in the past thirteen years, and I think this relates to the change in management, Health Service management, that occurred in 1974, and the Government is of course addressing that in the Griffiths Enquiry. I think management in the Health Service in the mid to late Seventies and early Eighties was really very slack indeed. There is no doubt whatsoever about that. I say that partially as an academic and partially because I have worked all my life in a major teaching hospital which is NHS funded, and now I am a member of a health board and the management structures really became very slack indeed with consensus management. There was no clear leadership and with large sums of money coming into health boards there was great scope for savings.

341. Now that general management has been introduced in the Health Service, there will be greater attention to this?

(Professor Kennedy) Yes. That is occurring in the health boards.

342. We have not seen much evidence of it so far.

(Professor Kennedy) I can give you a simple figure for the Greater Glasgow Health Board, which is the biggest spender in Scotland: savings of nearly £20 million last year on just improving management of straightforward things like catering and so on. That money is all now being made available to patient care.

343. That came out of better management or out of Health Service research?

(Professor Kennedy) No, better management, but I do not think there needs to be much new money put into health service resources; I think there should be improvement in making money available from the existing sizeable budgets.

Baroness McFarlane of Llandaff

344. I wonder if I can ask (referring to the system you are suggesting for allocating resources for research) if one would get an effective allocation to health services research with that system? It seems to me that the priority is nearly always given to those more dramatic areas of work.

(Professor Kennedy) I think I said, Lady McFarlane, if I may say so, that the dramatic things tend to be done because they have to be done and the less dramatic things tend to be pushed slightly aside.

Chairman

345. We have moved in this direction, about allocating monies for health services research.

(Professor Oliver) Yes, that is true. Before we break for lunch, Professor Kennedy is talking about dramatic research and, of course, that is very necessary to take into account, but there is another aspect of the total research programme that you undoubtedly have been thinking about and that is investment in the future where ideas are developing on a national basis. I mention in the memorandum here the possibility of forming some national institutes which have been enormously successful in the United States. There is one, for example, in Oxford: Professor Weatherall's Institute for Molecular Biology formed about two years ago. A very outstanding, leading scientist is running that and it is working exceedingly well, bringing a lot of bright young people together and training them at levels which they would not have the opportunity to be trained at elsewhere. I can see arguments for such developments in other areas in the future.

346. Would there be one in Scotland?

(Professor Oliver) Hopefully yes—even two!

347. Let us say one for starters. Where would you put it and how would you decide that?

(Professor Kennedy) I do not care where it is located.

348. We will not go into the geographics. Would it be something new or would you take bits from various places to make up a balanced unit?

(Professor Oliver) Probably bits from various places, but then it would make it a centre of excellence.

349. You want to bring in experience; you do not want to start from scratch?

(Professor Kennedy) I am not sure we do not have centres of excellence already but they are under-provided in money.

350. You might take one of them and add more things to it?

(Professor Kennedy) I think the framework is there but some are, sadly, underfunded.

351. I think we must not over-run our time. May I say we have very much enjoyed having this talk with you and we very much appreciate the way you have answered all our questions and the very excellent papers which you have submitted to us. Your contribution will be very useful to us.

(Professor Oliver) Thank you.

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MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

at

THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH

Thursday 16 July 1987

Professor D Ogston, Professor P D Griffiths, Professor I Bouchier,
Professor Sir Patrick Forrest and Professor D Campbell

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THURSDAY 16 JULY 1987

Present:

Hunter of Newington, L.	McFarlane of Llandaff, B.
Kearton, L.	Nelson of Stafford, L. (Chairman)
Lockwood, B.	Rea, L.

Memorandum by the Faculty of Medicine, University of Edinburgh

I am responding to your letter of 5 March 1987 inviting interested parties to submit observations on priorities in medical research to Lord Nelson's Sub-Committee of the Select Committee on Science and Technology.

I write as Dean of the Faculty of Medicine of the University of Edinburgh and as a scientific member of the Medical Research Council. My own research is concerned with clinical psychiatry and the epidemiology of mental disorders. It has been funded mainly by the Chief Scientist Committee of the Scottish Home and Health Department and the Medical Research Council and, in the past, by the National Institute of Mental Health in the USA.

In reply to the Sub-Committee's nine specific questions:

A. There is no global mechanism for setting priorities in medical research; each funding body has its own priorities and its own scientific advisors. The Medical Research Council, the largest single funding body, has what I believe to be an effective mechanism both for setting its own priorities and for ensuring that these are compatible with those of the other Research councils and those of the United Kingdom Health Departments. Liaison with other Research Councils is achieved under the aegis of the Advisory Board for the Research Councils. Liaison with the Health Departments is close and harmonious. There is an annual meeting between the Council and the Health Departments at which priorities are discussed and agreed; the Health Departments are represented on the Council and on all of its constituent Boards; and the Council has recently undertaken to increase its investment in health services research, which is of particular importance to the Health Departments.

B. It is extremely difficult for any person or body to decide whether the balance between different types of research and different research areas is optimal. It is not sufficient to identify areas of need in which more research or more effective treatments would be desirable. Problems have to be potentially soluble in the light of existing knowledge and technologies before it is sensible to devote expensive resources to them; and even with a high level of scientific expertise judgments about potential solubility are necessarily fallible. There is no way of knowing in advance what research may reveal, or how quickly investment of resources will produce worthwhile benefits. For this reason it is never possible to be confident, in an era of limited resources, that priorities have been correctly identified. Inevitably, areas which it will subsequently become apparent should have been identified as priorities will not be, or will not be given sufficiently high priority to obtain adequate funding.

C. Priorities in medical research do change with changing circumstances. Research workers are usually quick to identify the opportunities presented by new technologies and both they and their funding bodies change their priorities in response to changes in the incidence of disease. The rapid development of research into senile dementia in the last two decades, and the explosive development of research into AIDS in the last four years, nationally and internationally, illustrate this.

D. This is an important problem area. In the past the Medical Research Council was the main source of research funds, particularly for fundamental research. The contribution of the various Medical Charities was comparatively small and the pharmaceutical industry was only willing to fund research of fairly immediate commercial relevance. However, as the Medical Research Council's income from the Science Vote has fallen over the last five years and the annual research expenditure of some of the Medical Charities—the Wellcome Foundation in particular—has risen, the balance between the two has changed dramatically. Currently the Medical Research Council's income from the Science Vote is a little over £130m a year while the Medical Charities are now spending between them over £100m a year. As part of the MRC's income goes on administration and international subscriptions the actual spending on United Kingdom research is more nearly equal than these figures suggest. In order to achieve optimum value for money the priorities of the MRC (and the Health Departments) and the Medical Charities ought to be coordinated. Unfortunately, there is no adequate coordination, primarily because the charities jealously guard their independence and insist, with good reason, that their sources of income (from wills, flag days, etc.) are crucially dependent on their being free to fund the kinds of research their donors are interested in without regard to governmental or national policies.

As a result some areas of research which are selectively supported by major charities like the Imperial Cancer Research Fund, the Cancer Research Campaign and the British Heart Foundation are quite lavishly funded while others, which do not have the same emotional appeal to well-to-do donors, are seriously underfunded. In the past the charities saw it as their role to fund areas which in their view were neglected by the MRC. We are now moving towards a situation in which an impoverished MRC ought perhaps to see its role at least in part as that of funding areas which are neglected by the charities.

E. Most important research quickly becomes widely known within the scientific community. Although some scientific journals have a publication delay of over a year important discoveries are usually published quickly in widely read journals like Nature and The Lancet. Conferences provide another setting for the rapid dissemination of knowledge.

F. Some duplication is inevitable, particularly in important or scientifically exciting fields of research, and it is not rare for several different research teams in different countries to be competing with one another in such areas. In general, however, duplication is not a problem because there is no kudos to be won by copying what others are already doing and funding bodies will not pay two teams to do the same thing. It is important to appreciate, too, that important claims need to be replicated and in this sense some duplication is essential.

G. Research frequently fails to result in early improvements in patient care or appropriate preventive measures. The relationship between cigarette smoking and lung cancer, for example, was well established 20 years before the smoking habit started to decline. The benefits, and safety, of fluoridation of water supplies have been well established for a similar time period. Usually the explanation of such delays is fairly obvious. The action required is politically inconvenient to government, or it threatens the interests of a powerful industry, or the new treatment or equipment is too expensive for the NHS to be able to afford to introduce it.

H. What is urgently needed is not a change in the priorities of medical researchers so much as a recognition, by government, industry and the electorate, that medical and biological research are vitally important and must be better funded than they have been in recent years. It is particularly important that, in their anxiety to obtain better value for money and greater "relevance", government and industry should not deflect too high a proportion of resources and research workers away from basic research into areas of immediate practical need. The most important advances are usually the result of so-called fundamental research and are extremely difficult to predict. If the scientific community had been dissuaded a decade ago from studying retroviruses, on the grounds that there was no evidence that they had any role in any important human disease, our chances of developing an effective vaccine or drug for combatting AIDS within the next five or 10 years would have been immeasurably worse than they are.

I. The most important need is better funding, primarily by government but also by the pharmaceutical and medical equipment industries. As a nation we spend much less on all forms of civil research than our industrial competitors and the scope and quality of our research is declining as a result. Better coordination between the Medical Research Council and the Medical Charities would have many advantages but, for the reasons described under D. above, this will not easily be achieved.

Yours faithfully,

R E Kendell

Memorandum by Professor Ian Bouchier

Thank you for your letter about Medical Research. I am pleased to respond to some of the questions which you have asked.

The Department of Medicine at the Royal Infirmary, Edinburgh, comprises some 12 Senior University Staff (Professors, Readers and Senior Lecturers) and nine Lecturers with appropriate Scientific, Technical and Secretarial support as well as a number of Research Fellows. With very few exceptions, all of the Academic Staff are involved in a combination of clinical work for the National Health Service, undergraduate teaching, and medical research. The Departmental research covers a variety of specialty interests.

1. Gastroenterology: gallstone disease, alcoholic liver diesase, and oesophageal disease.
2. Cardiology: the cause of coronary artery disease, mechanisms of sudden death in heart diesase, high blood pressure and the effects of myocardial infarction.
3. Respiratory disease: cancer of the lung, sarcoidosis, pulmonary embolus, granulomatous lung disease.
4. Endocrinology: thyroid disease.
5. Diabetes mellitus: autonomic neuropathy, gallstone disease in diabetes mellitus.
6. Renal disease: chronic renal failure, renal vascular control, renal hypertension.

All of this research is clinically based but there are some animal studies in the heart disease programme. Most of the topics relate to problems frequently encountered in clinical practice. Much is grant-funded either from MRC/SHHD or the pharmaceutical industry.

Let me not attempt to answer some of your questions and in doing so I shall first reflect my attitude to the Research undertaken within my Department and then give my views on the national scene.

1. "How are priorities for medical research set?"

Much medical research is reactive or opportunistic. An investigator or potential investigator sees a problem, believes it to be intellectually stimulating and initiates a study. Because the staff in this Department all have clinical contacts the research is related to those diseases encountered in the hospital and by inference of importance to the National Health Service and the Nation. I have encouraged this approach. We try to study what are common and important diseases.

2. The balance of research in this department will depend on many factors: the resources provided by the University, resources obtained from outside funding (Research Council or pharmaceutical industry), the time that is available for the investigator, and the drive, initiative and enthusiasm of a particular member of staff. We do have limited resources and this does inhibit research, usually by preventing projects from being started. Each senior member of the Department is responsible (together with a junior staff member) for his own research portfolio. If economies are to be effected, those projects which are less successful (as judged by failure to obtain results, failure to achieve presentation at scientific meetings, or publication) will be discontinued. Priorities might not change with increased funding, although the scope and quality of research would.

3. Nationally, priorities in medical research are adapting to changing incidence of disease. We see this, for example, in less research being undertaken in tuberculosis. There are many other examples which could be given. To some extent this would be reflected in our own departmental activities. New technology undoubtedly does influence research; but no one in this Department would change his research interest simply because the new technology has become available. However, new technology in the discipline and area of expertise of a research worker will undoubtedly influence his research.

4. The resource of funding will influence priorities of medical research. Thus if a worker wishes to undertake a study and money is unavailable from either the Research Councils or University, he may well switch to a project funded by a pharmaceutical company. Such research is satisfactory up to a point, but it is inevitably drug-orientated, seldom of basic scientific interest, and often not the research project which was the initial first choice for which funding has not been forthcoming. Commercial and charitable funding is often not available for projects relating to basic science for which public funding (MRC for example) must be sought.

5. I believe that the results of research can be adequately disseminated through scientific bodies, proceedings and journals. It is up to the medical profession to read these. I quite unashamedly encourage my staff to publish as much as possible. But journals are expensive, libraries are cutting back on journals or are not taking new ones and the dissemination of new information becomes more difficult. Commercial firms are playing an increased role in disseminating knowledge but such material is of a selected kind, frequently not the original source containing the data relevant to the research and its conclusions, and therefore difficult to evaluate critically.

6. We have no duplication of work within the Department. It is too small to permit this. There are regular departmental meetings to discuss research thereby avoiding duplication and the interests of the senior staff are such that duplication is unlikely. On the other hand, every effort is made to ensure that

collaboration occurs both within and outwith the Department. This has obvious implications for the saving of money. This is easy within our departmental structure. It is in this way that we attempt to make the best use of limited resources.

7. Some of the work which we do will have a direct effect to improve patient care, for example that on heart disease, diabetes mellitus, renal failure and liver diseases. Others, such as my interest in the cause of gallstones, is likely to have a peripheral effect at this stage, although it has great potential for health care in reducing NHS costs from surgery should we find a means of preventing gallstones.

Perhaps I may now respond to some of the issues taking the national point of view.

I am doubtful if it is possible to set priorities for research other than in the most general of terms. The reason for this is that good research workers usually "follow their nose"—they will only work at what interests them and it would be difficult to turn a research worker towards a particular topic however important if it does not stimulate or intrigue him. There is also the danger that a decision may be made not to support research on particular diseases or groups of diseases and this may turn out to be the wrong decision; this has happened before. But priorities for research can be set to some extent. The MRC and the Chief Scientist Committee in Scotland do so to a degree by deciding priorities for funding and this is based in part on the national need. The Chief Scientist Committee in Scotland has issued a list of subjects or diseases in which research is encouraged. But at no time should scientific standards of evaluation fall in order to fund priority projects.

It is impossible to be sure that the balance between different branches of medical research reflects correctly the national need. There will be no agreement on priorities. Obviously, it would be satisfying to identify a topic that is of great significance to the Health Service or the Nation's health and attempt to solve it. I doubt if it is feasible to have such goal-directed research priorities. The American experience in trying to solve the cause of cancer under the Nixon Administration is one example of the failure of such a policy. However, medical research can react rapidly should the situation require, and the AIDS problem is a good example. A large number of research groups throughout the country are working on various aspects (virology, immunology, clinical work, sociology, psychology) of the AIDS problem. One could argue that the work is neither focussed nor coordinated (and the MRC are intervening in this regard) but nonetheless the response from basic and clinical researchers has been brisk.

One area of concern is the quantity and quality of Health Service related research. This has been identified as an important field, both in Scotland and in England and Wales. There is at present not the body of quality research appearing in HSR as exists for other branches of basic and clinical research. I suspect that this is because the discipline is new and the research techniques are neither well established nor widely understood. There is great scope for better evaluation of how the NHS functions, its efficiency and use of resources. I believe that many of the Medical and Nursing Staff in the NHS could contribute directly or indirectly towards identifying important issues for study, but they do not have the skills or access to the relevant skills, necessary to undertake the appropriate research studies. Thus, we should do more to train young potential research workers in the skills of epidemiology and other disciplines relevant to the evaluation of the Health Service. I know that the Chief Scientist Committee in Scotland has addressed itself to this problem and has established a Unit, one of the aims of which is to try to train young workers in epidemiology.

At present circumstances are working against the training of clinical research workers. We are experiencing a decline in the number of committed medical research personnel within the University and the Health Service. The causes are many: reduced funding, loss of NHS and academic posts, increased competition for NHS posts so that young doctors do not wish to "waste time doing research", poor salaries for those in full-time medical research compared with what can be earned in private practice (surgery, orthopaedics and obstetrics/gynaecology have suffered greatly here). There is no formal career structure for the committed clinical investigator. The NHS has nothing and the Universities can help to only a very limited extent. Brighter junior doctors need to spend at least two to three years in a research programme in order to acquire an ability to conduct clinical research. Very few opportunities for doing this exist. Again it is only the University which can make an adequate contribution and this is becoming more urgent as technology relating to medical problems grows and becomes more sophisticated.

Another important factor relevant to the point mentioned above, is the placing of basic non-medical scientists (or research workers in other disciplines such as epidemiology, economics, sociology) within clinical departments to form a multi-disciplinary team tackling basic or clinical medical problems, or problems relating to the provision of health care. I believe this to be an important way of strengthening medical research.

It is short-sighted and misguided to see all medical research as necessarily having an immediate effect to improve patient care or the National Health Service. I have already stressed that most research workers are motivated by an urge to answer questions they find exciting. They seldom have the ultruistic attitude that the work necessarily has a prime goal of relieving suffering or preventing death, although they may hope that in the long run it may so do. There are many, many examples of research work being undertaken to answer a question which seemed to have little clinical relevance at the time but which, years later, is found to be of profound significance for clinical care or prove to be most influential in stimulating new directions in research (Reference J H Comroe's ''Retrospectroscope'', 1978).

It is difficult to avoid all duplication of research. To some extent funding through the Research Councils and larger charitable organisations prevents this. On the other hand, it is not necessarily harmful to have some duplication and I will give two reasons for this point of view. First, it is obvious that one group, however prestigeous, is not necessarily going to be correct all of the time and it is desirable that results from one laboratory or department are confirmed by others. Second, and on a wider issue, there is a great danger to the national research endeavour if the base becomes too narrow. There is what I regard as ''the grey zone'' of medical research practised widely throughout this country which is sound but unexciting, modest and of average quality. It is easy to be disparaging about such research but it serves one very important function of great relevance to the national need. From this anonymous and unsung mass of workers, there emerge from time to time ideas and individuals that make a major contribution to medical research. If we stripped away such research activities at the periphery of excellence, the kind that is practised in the majority of medical schools, then we are in danger of losing an important source of ideas and people with the potential to enrich greatly this nation's research effort.

I believe that the present framework for administering basic and clinical medical research in the United Kingdom is sound. It is not rigid. It can and has adapted rapidly to needs. It is also objective and fair. Furthermore, it is not too cumbersome to administer.

I have to say that I believe that the full research potential of our Universities and Hospitals is not being realised primarily because of a shortage of funding. Twenty five years ago, with a very similar research infrastructure to what we have today, the nation's research output compared favourably to the United States of America; and this on a budget which was meagre in comparison to that of the Americans. Unfortunately for very many reasons research funding has not kept pace to realise the full potential in this country. We have now fallen far behind America and indeed have been overtaken by a number of continental countries.

Yes, there is a great need to use limited resources wisely and frugally but many of the difficulties which this country is now experiencing in formulating appropriate research strategies can only be solved by a willingness to inject more money into the system.

I hope that these comments are of help to you.

With kind regards
Yours sincerely

Ian A D Bouchier, MB ChB, MD, FRCP, FRCPE, FRSE.

Memorandum by the Faculty of Medicine, University of Glasgow

This submission from the Faculty of Medicine is one of general comment on the priorities in medical research and addresses the questions raised by the Sub-Committee. The views expressed largely reflect those already submitted by the Past-Dean of this Faculty, Professor Bryan Jennett, in his earlier submission to the Select Committee on Science and Technology in January 1986. The attention of the Sub-Committee II is drawn to the problem of defining medical research referred to in that earlier submission and to the complex interplay not just between the NHS, the UGC and the MRC but also with industry and the medical charities and trusts.

There are three areas of medical research, namely, *Biomedical* which includes *Basic Science*, much of which is only tenuously connected with medicine; *Clinical Science*, the aspect of clinical research which is most closely related to *Basic Science* and is conducted by scientists often working alongside clinicians seeking to solve the basic problems posed by human disease; *Health Service Research* which is often epidemiological in nature and conducted within University Departments of Community Medicine and Social Science as well as research units funded by the health departments often in collaboration with University clinical departments.

Question (a): The method of setting of priorities differs amongst the three aspects of Medical Research. In Clinical Science outstanding problems of causation of human disease are identified and then tackled in the *basic science* laboratory. Their solution is often facilitated by the close collaboration between scientist and clinician. Obvious examples are the elucidation of genetically linked diseases and the work on the AIDS virus. These priorities almost set themselves, reflecting medical and public concern over certain high-profile conditions at any given time.

In Health Service research priorities are largely determined by the need to collect epidemiological data on major public health problems in a search for appropriate preventive measures. Priority tends to be given to those problems whose solution would reduce the pressure on the acute medical services and would be likely to reduce costs to the national health in the most general sense. Examples of the various preventive campaigns which have resulted from such research such as this are the regional and national programmes to reduce the incidence of heart disease, hypertension, lung cancer etc.

Question (b): The present balance is probably not right and is further distorted by the lack of an overall coordinating body to integrate the efforts of the NHS, the UGC, the MRC and the medical charities. A glaring deficiency in Clinical Research is in the *evaluation of practice* (procedures and technologies) in hospital. As resources change, particularly in a downward direction, this lack of coordination of funding distorts the balance of research more acutely, the more "glamorous" projects receiving disproportionate attention. While an increase in resources would improve matters generally there would still be a good case for better coordination in order to give proper attention to relatively neglected areas of research.

There is a growing awareness of the importance of research into methods of medical education and their effectiveness. This field has been almost totally neglected since, while it is clearly fundamental, it has apparently had the lowest priority within existing funding bodies.

Question (c): The adaptation of priorities to various changes, while it undoubtedly occurs, is impeded by the current serious reduction in resources, both finance and staff, and by the lack of overall coordination already referred to above.

Question (d): Since a significant proportion of the UGC income of universities relates to success in grant applications for research, there is the likelihood that only very major and high profile programmes will be primed from university funds to improve their chance of a successful application and smaller but well worthwhile projects will remain unfunded.

Question (e): Dissemination of research results is probably adequate. With the new and closer links with industry it would be hoped that important and relevant research would be more readily exploited and applied for the public benefit.

Question (f): While undoubtedly some reduplication of research occurs, every attempt is made to encourage complementary research between departments and institutions locally and through the national medical scientific and research societies and associations which provide a forum for discussion, criticism and the encouragement of collaborative activities.

Question (g): There is evidence that this is so but there is a clamant need for more evaluation and monitoring of the results of the introduction of new drugs, techniques and technology into clinical practice. Only in this way can cost benefit and cost effectiveness be objectively assessed (Ref. "Rock Carling Monograph" High Technology Medicine—benefits and burdens, Jennett B, OUP 2nd edition 1986).

Question (h): The most acute problem results from the reduction in academic posts from the continuing severe UGC cuts. This reduces the ability of the smaller cohort of senior staff to supervise and train young medical researchers. From the trainees point of view academic posts are becoming less attractive due to the uncertainty of future career prospects and there are already signs that recruitment is being affected. Furthermore, trained research workers, often the most gifted, are tempted increasingly to take up posts abroad.

The clinical disciplines in the NHS have long recognised the value of a period of medical research as part of the training for a large proportion of future consultant clinicians. More posts in appropriate clinical research departments require to be funded to achieve this.

Question (i): Apart from an increase in future funding to support research, which is universally acknowledged to be of the highest priority, serious consideration should be given to the setting up of an overall coordinating body to guide and increase the funding of medical research.

13 May 1987

Examination of witnesses

Professor D Ogston, Dean, University of Aberdeen; Professor P D Griffiths, Dean, Faculty of Medicine and Dentistry, University of Dundee; Professor I Bouchier, Professor of Medicine, Edinburgh Medical School; Professor Sir Patrick Forrest, Regius Professor of Clinical Surgery, University of Edinburgh; and Professor D Campbell, Dean, Faculty of Medicine, University of Glasgow, called in and examined.

Chairman

352. Professor, I would like to welcome you and your colleagues to this session this afternoon, and we very much welcome the opportunity of hearing from you in connection with our enquiry into the state of medical research for the needs of the National Health Service, and we are particularly glad to be meeting here in Edinburgh and to have the opportunity of meeting all those who are involved from all over Scotland. We appreciate them taking the time to come and join us. The purpose is to produce some opinions based on the evidence which is presented to us and of ways and means of improving the research background to the National Health Service, and I am sure that you in Scotland can produce some thoughts on this matter, so we very much value this opportunity. I do not know whether you would like to say anything before we start the questioning, professor, to give us some thoughts on the state of medical research as you see it.

(Professor Bouchier) Thank you. It was most kind of you to ask. I am sure you have already heard from all the evidence you have taken that many of us feel that medical research is not healthy; that it is not making the advances that we think it should make, and that is not because this country does not have potential. I think, as you, I am sure, will hear, there are many reasons why we are not exercising the full potential that we feel we should exert. So that is a general statement. I hope that you will appreciate that in Scotland there are particular circumstances which are actually in favour of medical research: the good integration between the Health Service, for example, and the universities, the fact that the universities interact well. We feel there is a great potential in Scotland which could be realised, but which is not being realised, and again, I think the reasons for what will come out in discussion.

353. What would you see as being the main differences between the situation in Scotland and the rest of the United Kingdom?

(Professor Bouchier) Can I first of all say I am not going to speak entirely on behalf of my colleagues, as I am sure what I say will not necessarily agree with what they may think. I think to me there are a number of strengths. First of all, Scotland is small and compact. Secondly, communications in Scotland are good, both at the NHS level and the university level. I think we have a good relationship with the Health Department, very importantly, both at a senior level, like the Deans, and more particularly, at the lower level.

354. Your relationship is with the Health Departments rather than with the UGC and the Medical Research Council?

(Professor Bouchier) No.

355. As well as?

(Professor Bouchier) Oh yes, but I am thinking in terms of creating a climate where there is a lot of cooperation when it comes to doing medical research, and the other I think important point is that traditionally there has been a powerful voice in the Health Service from the university sector. We all integrate well into activities, and the Health Service on the other hand tends to come to the senior academics in medicine in Scotland for advice and for support. Given that sort of setting, there is no reason why medical research should not be very powerful in Scotland. It is not as good as it should be. It has weakened over the last decade. I can see that.

356. Apart from having more money, what would you say should be done?

(Professor Bouchier) It is the career structure that is a problem. It is the fact that a man who is good in research cannot continue in research within the British medical scene because there is no career structure for him, unless he goes into the university, and given the current climate in universities...

357. Then he cannot get back into the National Health Service.

(Professor Bouchier) Well, because the Health Service does not always accept him. A man who has done ten years in university is not always acceptable to his Health Service colleagues, although he may be a very able doctor.

Baroness Lockwood

358. When you say he cannot continue, for what period are you envisaging?

(Professor Bouchier) If at some stage he came out of the university sector or from the research sector and wanted to go into full-time clinical work, it is not always that easy for him to do that.

(Professor Sir Patrick Forrest) I think in general the NHS is rather pathetic in its encouragement of research.

Chairman

359. Is that because they have handed over that responsibility to the MRC, would you say?

(Professor Sir Patrick Forrest) No. It is not funding of research I am thinking of; it is attitudes.

360. I wonder whether it stems from that.

(Professor Campbell) The Health Service inevitably will concentrate—and this is not unfair—on applied research, on the shorter term aim, the obvious types of research perhaps; social research too, which is relatively well-funded; epidemiological research, and so on, as distinct from what in

[Chairman *Contd*]

university terms we are talking about, and that is the fact that we are now enjoying, in surgical terms, the fruits of research which was thought to be pretty irrelevant, and certainly with no immediate pay-off for the public, a generation ago, which is now commonplace: transplants, marrow transplants, organ transplants, and the rest of it. Way back the significance of that was not seen. It is a longer term strategy and longer term horizon. I think the Health Service, particularly through the Chief Scientist's Office, has been very good at putting money, even within the cash limits, to shorter term applied research as distinct from more basic research, which does not necessarily pay off by its very nature. You cannot see an immediate profit from it.

(Professor Sir Patrick Forrest) I was referring to the staff employed by the Health Service, in Health Service hospitals, even teaching hospitals, many of whom, compared to their American counterparts, are non-contributory to the research effort. A great deal falls on the universities.

361. It appears from evidence we have had that one of the problems is that they are under such pressures themselves through cut-backs that by the time they have given their attention to their patients, they really have not got much time for research.

(Professor Sir Patrick Forrest) No, it is more than that. It is the whole training and the way of life that evolves in a consultant in the National Health Service; he has not been trained to investigate, to advance knowledge, and to regard this as an important part of his responsibilities.

Lord Rea

362. Do you think it is better in Scotland than England?

(Professor Sir Patrick Forrest) I have worked in both, and I would say, yes. Your Health Service consultants maybe are not contributing quite as much to the general academic scene.

(Professor Bouchier) But this is in a teaching hospital; you must be fair. In a premier teaching hospital you would expect that we would attract that kind of person, but perhaps I can make a point, that is that I think it would be wrong—I am sure my colleagues will agree—to feel that every consultant in the Health Service should be making a contribution to research; we are not saying that and it would be quite wrong to give that impression. What we are saying is that there is a cadre of men that comes from medical school who have the potential for research. Not all of those could possibly go into the university sector or any other sector, no matter how you expanded it. They would find their niche in the Health Service. The sad thing is that given the current pressures of the Service demands, given the current lack of facilities, these men, if they were wanting to do research, could not do it because many of the chaps have been lecturers in academic departments have had inexperience of doing research and when they are going into the Health Service they are over-burdened with work, etc and they do not continue with the research that they could do. They are suspicious of the young man with the good research record who is applying for a straight consultant job in the Health Service. They say: "We do not want researchers what we want is a good Service man."

Chairman

363. What would you say is the missing link here then?

(Professor Sir Patrick Forrest) Well, there are several links. Flexibility. At the moment the training programmes—as I am sure you have already heard—are far too rigid and do not allow the flexibility one would like to see. Further there is no purpose in having that flexibility and training people in clinical science unless there is an outlet for them.

364. Flexibility being determined by who?

(Professor Bouchier) The Joint Committee on Higher Medical Training. The Colleges, together with the profession, have laid down certain (I would not say rules) fairly rigid criteria where before someone is acceptable for appointment to a consultant posting he has got to have gone through a programme and that programme would be fairly demanding: two or three years as a senior registrar doing Service work and one year out—one year out—doing research. Many of them do not have to do that.

365. You think greater credit should be given for such experience.

(Professor Sir Patrick Forrest) Once they are on the ladder then nothing really need stop them; they can just continue doing good service training.

366. The Colleges themselves have some contribution to make in introducing flexibility.

(Professor Griffiths) There is more to it than that, sir, because the difficulty is that even if you have a fairly rigid training programme that would not be a problem if it were possible to step off the ladder and then get back on again. Particularly in the present climate, where there is clearly a worry about the number of junior staff in training where the numbers are going to be reduced, the young man at the present time is in no way going to step off his National Health ladder and go into research and then have to fight to get back. He has got no guarantee he is going to get back. Therefore, he says, "Well, if I stay on the ladder I can go straight forward and I will become a consultant and that is fine. I am not going to take the risks associated with stepping off and trying to get back on. The disincentives for the young man are quite enormous.

367. What would you like to see then? Some arrangement whereby he is guaranteed to come back at the appropriate level?

(Professor Griffiths) I would. I do not know whether my colleagues would agree.

[Chairman *Contd*]

(Professor Sir Patrick Forrest) The new MRC of training posts in clinical science is achieving this.

Baroness Lockwood

368. My Lord Chairman, can I come in with a very specific question which, as you will appreciate, is of interest to me: half the medical students are now women, and we have been talking about "he" all the time. Are there any special problems that apply to women in the profession? I think this is something that we really need to take note of.

(Professor Bouchier) I would say the basic problem is if a woman wants to start a family. Women can get married and continue but the woman who wants to start a family has problems. My own view would be it all depends if the female wishes to be trained to the same standard as the male and that means going through the same training programme, which is a tough one—in surgery, medicine particularly. If she is going to start a family and is going to be trained to the same standards as the male then she is either going to have to have her family looked after by someone else or else she is going to have to do a longer period of training; instead of taking four to six years to get up to consultant level she is going to take 12 years. The alternative is that she is going to come out and be less well-trained—and I am sure she would not want that and the profession would not either. So there is a problem.

(Professor Sir Patrick Forrest) If I can take an example, there is a very bright young girl who is doing a clinical research project funded for 18 months more, working part-time, laboratory part-time in the clinical scene. She is having a baby. That is it. She has resigned. This is such a lost opportunity for her.

369. And for the profession.

(Professor Campbell) For the country. The investment in training. 50 per cent of our undergraduate medical students are talented girls who come in, and it will be more than 50 per cent this year in my own medical school, and to waste that talent later on is tragic...One of the reasons, in addition to what my colleagues are saying, of course, is the inflexibility of National Health Service contracts. Indeed, the university contracts and some of our "soft money" research posts present them with almost the only opportunity to work part-time. The Colleges have a responsibility too. They make it very difficult to complete high training—male or female—if you are doing it part-time. It is double the time.

Chairman

370. A girl cannot get a part-time contract with the National Health Service?

(Professor Campbell) There are a very small number of them.

(Professor Sir Patrick Forrest) There are some two girls for one contract.

(Professor Campbell) We have appointed two for one post. Lothian was the first to do that. So they have all the problems of the "he's" plus that one. The rigid contracts on the NHS side are a parallel to the rigidity of the training programmes of the Colleges. In university terms it is a disappointment to produce good students and at the other end, for obvious reasons, not make the most of them. Then, if they do acquire a membership of a fellowship a speciality, to have them re-employed at a later stage doing something that, quite frankly, will be able to be done with the appropriate chip attached to a microcomputer and finding "mechanical" jobs way beneath their potential is wasteful...How many are doing cytology who have full fellowships and so on? It is very depressing. It is not easy to find a way round it except flexible contracts. Compared to other western countries, we are very far behind in this matter.

Baroness Lockwood

371. What would they do in other western countries?

(Professor Campbell) They actually do make provision for people not to be penalised in training terms by taking a year out to have a child and coming back in again; not to have to re-apply to get back in again but a guarantee of re-entry. It is getting back in again that is the problem, in addition to the problems of any of the medical people. I think that, is a grave waste. I think we are all concerned about it and we are waving our hands, but nothing much changes.

372. The problem seems to be intensified by this very rigid system that you are describing to us.

(Professor Sir Patrick Forrest) Rigid and long. For some reason we, in this country, seem to think it takes 12 years to train a surgeon. They can do this in America in five and there is nothing wrong with American surgeons.

373. Now professional women are waiting till they reach their thirties before they begin to have their family, by which time they are trained. Therefore it is, surely, this rigid problem of going out and coming back in again which needs to be looked at.

(Professor Sir Patrick Forrest) And increasing their risk of breast cancer!

Baroness Lockwood] We were talking about career structures.

Chairman

374. Taking your point about this difference between America and Britain—five to six years and 12 years—that is a tremendous difference. What is the difference in the curriculum that takes so much longer? Do we in the United Kingdom do a lot of things that are not necessary?

(Professor Sir Patrick Forrest) I think it is reasonable to say that a Senior Registrar during his time is capable to do the work required of a young consultant.

(Professor Bouchier) I think it is the way we have

[Chairman *Contd*]

evolved. In America you do a residency programme, you become a Chief Resident and you go into practice. It is really like that. Whereas here you have got a much longer hierarchy of Senior House Officer, Registrar, Senior Registrar and then Consultant. That takes years.

Chairman] It is the hierarchical progression, really.

Lord Hunter of Newington

375. Would you say the cause of this, in part, is the dychotomy between the under graduate programme overlooked by the General Medical Council and the postgraduate training progamme with its specialities, which was supposed to become a responsibility of the General Medical Council but I understand, from having been there only a couple of weeks ago, they are only now setting up a Committee, and that is going to bring them into very delicate relationships with the Colleges.

376. Is there not two structures trying to do something which should perhaps be in a sense a continuum?

(Professor Campbell) Do you mind if I answer that one? It so happens that in another hat I am Chairman of the Scottish Council of Postgraduate Medical Education, a much smaller-scale body than the large England and Wales one, which has been a fair disaster. It is absolutely essential it exists; we would have to invent it if we did not have one, but its track record has been rather bad and the GMC have not got the resources to put into effect their statutory obligation. They now have to look at the continuum of medical education. It will all depend on how they reform the English council and we are very concerned here and in Northern Ireland that that should be done, that there is a political will to do it, and it shall not become just another great quango. It has a coordinating role. It is not instead of GMC or instead of colleges or universities, but it acts as a clearing house and should have the secretariat to do it. Yes, I think you are absolutely right. Unless you look at the medical education from the word go right through a much shortened postgraduate education perhaps than you have at present in surgery, you are going to have this box-like approach to it.

377. If you are running a business you could decide that eight years would be the way to train anybody to do almost anything if it were properly organised, not ten or twelve, which is what it is now.

(Professor Bouchier) My view partly is that I think it is a tradition here, and that the British have a very strong tradition of clinical medicine, and I believe that is based on a strong clinical training programme, and actually we can get back to the question of medical research. Part of the problem is that clinicians, whatever branch of medicine you are in, feel that if you have not had good training you cannot become a consultant. We are geared to training for a consultancy. They would look askance at someone who has not had a long training programme and they would look askance if you said, "When you become a consultant you can still go on then."

Chairman

378. Can I be clear: do you differentiate between training and experience? You said a long training programme.

(Professor Bouchier) Yes, I do.

379. Do you mean a long training programme or a long period of experience?

(Professor Bouchier) They say you should have a long training programme and I say you can have a short training programme and can go on getting experience and learn when you have still got your permanent post. When you get back to research you have very highly intelligent men, 90 per cent of whom have the potential to be good consultants clinically but will not spend so much time in training, clinical training, because they will do medical research, and those are the people—am I right?—who are unacceptable to our clinical colleagues because they say they have not had long enough training, although these men have the intelligence to learn from their experience.

(Professor Sir Patrick Forrest) I think your point is valid. It is experience plus training.

380. I was not too clear about that. This is not formal training in the form of a continuing educational course. It is actually experience under supervision.

(Professor Campbell) And in surgery it is taking out appendices, etc. I think our problem basically is that the public do not fully understand and perhaps their representatives do not always understand medical research as distinct from medical performance. We are talking a lot about training and so on.

381. A lot of people in the DHSS do not.

(Professor Campbell) When it comes down to the crunch, it is easy to measure our efficiency in terms of our throughput, but about the quality of it—who knows? Perhaps there is even some doubt about that sometimes. We try and put across the importance of research in the education of any medical, whether he is going to take the avenue of full-time academic or research work or whether he is to be a sound consultant, interested in his continuing education. The importance of medical research in that context is not easily appreciated and it is expensive and difficult to measure, in the short term at least, the positive benefits of it, and I find we are always at a disadvantage trying to put that across.

(Professor Griffiths) I think even more so at the present time, when—I think it probably was apparent before you came here—the Health Service is tending to dominate the thinking of the young person at the present time, and this is having an adverse effect on research.

[Chairman *Contd*]

382. Is that the natural dominance of the monopoly employer?

(Professor Griffiths) Yes, but now the employer is demanding more and more, because he has got to show value for money—it is called many different things, but he is trying to show value for money and therefore he is giving less and less opportunity for research, or indeed training in a sense, because if you look at the consultant contracts, theoretically they have time for teaching and research. If you go and ask the employing authority, "How much time is actually allocated in the programme for that?" you will find there is none offically allocated. It is nominal.

383. On the grounds that "we are all too busy looking after patients"?

(Professor Griffiths) Indeed, and the same pressures are now being applied of course to university clinical staff, who are being asked to do more and more work for the Health Service to the detriment of their research and teaching activities, and I think one must bear in mind in this also that all postgraduate education training is theoretically funded through the Health Service and not through the universities, yet university departments are expected to make a major contribution to the training and research, and no funding for postgraduate medical education goes into the universities. It is a very extraordinary position to be in.

(Professor Sir Patrick Forrest) I have now spent over 25 years as head of a surgical department at two universities, and I am really depressed that clinical academic staff, (lecturers, senior lecturers,) are now being so committed with service and teaching that they do not have the opportunities for research they once had.

Chairman] Because of the pressure of time.

Lord Kearton

384. I am interested in your definition of research. You are using "research" as an omnibus term. When you talk about research, what sort of research do you have in mind?

(Professor Bouchier) You have got to have time to collect data. The collection of data could be working in a laboratory, but it could also be going through your notes or examining your patients in a more critical way.

385. The second part would seem to me to be very valuable.

(Professor Bouchier) That is right, but if you have a terrific work load, you have got to see 20 patients in a morning otherwise you cannot get through your work instead of seeing ten, there is no time for data collection.

386. But surely a lot of data collection can be done at a lower level.

(Professor Bouchier) Can I give you an experience? I had the unfortunate experience yesterday of going down to London as an external assessor an MB thesis which had been failed in London, and this was a hard-working, genuine young man, who had worked extremely hard on data collection and had not been supervised by any senior, and he wrote nonsense and had no insight, so a junior person unsupervised is valueless to everyone. That is the problem.

Lord Rea

387. Going on on this question of not enough time being available to Health Service consultants for teaching and research, does not the implication arise from that there need to be more consultants in order that some of them have a bit more time to do what they require? Is that not another side of the coin once they have got their permanent post, in recognising research during those years you are supposed to be training as part of that training?

(Professor Bouchier) And it is. Written into all of these high training programmes is a statement that time spent in research will be accredited for training. May I just make a point, and that is the concept that one year in research equals training or adequate training in research is nonsense. They regard it as 12 years of training to be a good doctor. We have already agreed that that is excessive and five years would probably be adequate, and I reckon you need five years of proper training to be critical, to put your data together, get your techniques together. The idea that one, or even two years is adequate is ridiculous.

(Professor Campbell) You have to start by appreciating it is a fair question to ask what sort of research you are talking about. Surely most of the time we are talking about for everyone experience and training in research methods. It starts as under graduates and the most valuable thing which we need more funding for is at under graduate level—intercalated degrees and BSc or science degrees. People keep talking about the art of medicine and that is fine, but there is scientific medicine, and the understanding of that, even if they never practise as medical students is important. So starting with children, working through the adolescent stage to adults, they will be better clinicians and serve the public better, surely, if they have had some exposure to that, even if it is not a thorough basic training.

Lord Kearton

388. One example we saw of research, I think, at St Thomas's was a group of people doing research on the transfers across the placentas of guinea pigs, and people were taking all sorts of measurements. It was all very interesting and they were getting all sorts of interesting results, but I would say the value of, say, spending two years on that for being a general clinical consultant was zero.

(Professor Bouchier) I am not sure we would agree with you, Lord Kearton. Would it not be fair to say there are very few research posts for men who see themselves primarily as doctors, and even the full-time clinical research worker would still see himself as having an association with patients and

[Lord Kearton *Contd*]

there would be very few of those people who would spend all two years with no clinical contact. That is the first point. It is a question of being able to design and prosecute an experiment properly.

389. That is the whole point; all research must be supervised.

(Professor Sir Patrick Forrest) One of the important ways to facilitate this, is the ability to bring into our university departments reputable scientists to work with members of the clinical academic staff. I am very fortunate in that I have a couple of senior scientists who supervise the youngsters in the lab. It works tremendously well.

Chairman

390. They are employed by?

(Professor Sir Patrick Forrest) The university.

391. How does their pay relate to that of their opposite numbers in the National Health Service?

(Professor Bouchier) Not very well.

(Professor Sir Patrick Forrest) Are you talking about clinical staff or scientific staff?

392. Scientific staff.

(Professor Sir Patrick Forrest) For scientific staff it is the same as elsewhere in the university.

(Professor Bouchier) Of course, they do not get the same as clinical staff.

(Professor Sir Patrick Forrest) Or the same as they would get in industry.

(Professor Campbell) They are not clinically qualified scientists and fare very badly.

(Professor Griffiths) It is even worse than that because they have not really any proper career structure. You can say "Oh yes, they can be a lecturer, they can be a senior lecturer, they can be a professor" but how many non-medical scientists are ever going to become a professor of surgery? The difficulty is if, say, you are a bio-chemist and you want to advance youself in the subject, you are not going to work in a medical department, you will work in a basic department of bio-chemistry because that is where your career prospects are. You will not easily attract the best scientists into the medical departments.

393. What should the career structure be, in your opinion?

(Professor Griffiths) I think there needs to be something akin to the MRC of NHS structure. I happen to run a laboratory department and I have NHS scientists in the department. They have a clear career structure, which is quite separate from the structure for the medical staff in the department, and it is a structure which starts at a probationer, as a bio-chemist, going right up to the level of top grade which is equivalent to a consultant. That is in the Health Service. The MRC have tenured posts at a later stage and they can encourage people to go right through. There is no similar thing in the university system.

394. Would you like to suggest what the career structure should be?

(Professor Griffiths) This is hinted at, I think, in the President of the Royal College of Edinburgh's document to you. I think it has been mentioned several times.

Chairman] It does not actually specify the structure; it says a structure is needed.

Baroness Lockwood

395. Professor Griffiths, may I just pursue this: you are a non-clinician?

(Professor Griffiths) I am a pathologist. I am medically and scientifically qualified.

396. But your career has largely been on the scientific side?

(Professor Griffiths) No, my personal career is on the medical side but within the university. My department—I have to explain, perhaps, sir—is a combined Health Service university department. My Health Service department, which provides a bio-chemical service for patients in the Health Service, has a separate structure in which there are non-medical scientists and medical scientists. The medical scientists go up the medical career structure and the scientists have a career structure of their own which is quite separate and under separate regulations.

Lord Kearton

397. Is it separate but equal or separate but inferior?

(Professor Griffiths) You can argue that one, because if you become a senior bio-chemist (which is roughly equivalent to a higher level of a middle grade Registrar) you have at least got security, which you have not got as a Registrar. On the other hand, the Registrar's salary is higher.

Lord Hunter of Newington

398. There is a career structure, obviously, in a laboratory which is carrying out a very substantial amount of routine work as well as teaching. Is that right?

(Professor Griffiths) Yes.

399. But the gap seems to be the clinical person who wants to do a certain kind of research work. He has either got to compete on the scientific side (if he moves over to spend most of his time in science) or on the clinical side, where they immediately say, "This chap has missed out, he has gone and worked in a laboratory, he has done this and he is not really as fully qualified as a clinical consultant; we had better appoint somebody else". Is that right?

(Professor Griffiths) No, I think we were talking about two different things. Earlier we were talking about—at the end of the table—the clinician who was doing science. I am now talking about the question Sir Patrick Forrest is talking about, which is the non-medical scientist working in a clinical

[Lord Hunter of Newington *Contd*]

department. They have also a very big problem: it is unattractive to them because of the lack of career structure and, therefore, makes it very difficult for us, in the clinical departments, to attract the best scientists into it.

(Professor Sir Patrick Forrest) I would agree with that.

(Professor Campbell) Mine are in the university department, so they are all right.

(Professor Bouchier) I agree entirely with what Peter says, but I think there is another problem we face and that is that on the whole most of us who have clinical departments with scientific laboratories associated with them and in whom we wish to appoint a scientist (and let us face it, we are not only talking about bio-chemical scientists but social scientists or any other form of scientist), we can only manage to get one or two in our unit and they are away from the mainstream of the academic routes. So we do not always—infact we very seldom can—attract top rate minds because they feel they are coming into a sterile environment. They may be right in many ways, but the interaction that you need for the basic scientist and the practising clinician to do research (and whether it is laboratory research or Health Service research does not matter) is important, but the man who comes in will become isolated from his basic academic discipline. It is a real problem which we all face and which we talk about quite a lot and have discussions as to how to put it right. But essentially the man who comes in there has to some extent to sacrifice his major career in order to interact.

400. Is the answer to that a larger unit or a more comprehensive unit?

(Professor Bouchier) Either you have a larger unit within the department or you say all the scientists within the medical school should form their own grouping.

(Professor Sir Patrick Forrest) Which happens in Duke University very successfully.

(Professor Bouchier) I have an opposing view.

Baroness Lockwood

401. What is the possibility, if you want biochemists working with the biochemistry department within the university or if you want social scientists working with the social scientists? Is there any scope for their movement into your department and back again into the mainstream?

(Professor Sir Patrick Forrest) The biochemist in my surgical department teach biochemistry with biochemistry department.

402. Yes.

(Professor Bouchier) It all depends where you feel your allegiance. It comes down to that. You have to have a feel for the people with whom you work, and the fact that if you have a problem or a demand, you are going to put your demand not in the Department of Sociology but in the Department of Medicine, and it is how you split your time. That is one of the main difficulties. I think the other thing is it may be actually quite difficult to work with doctors. Young doctors can be arrogant and they can be ignorant.

403. Is that on the record?

(Professor Bouchier) Yes. So you get a bright scientist with a doctor in the laboratory and the doctor in the laboratory is not easy to teach. He thinks he knows everything, and it is not easy to interact with medical people. You have to have a special patience or tolerance with a chap who is prepared to work with some silly chap who needs a year of training, and once he has got through that barrier he is a very good worker. I do not know if you think I am over-stating it.

(Professor Campbell) I think a bit!

(Professor Bouchier) What I am trying to get across is the difficulty of getting a scientist to work in a medical environment.

Baroness McFarlane of Llandaff

404. Am I not right to say it may then be difficult for that scientist to move back into his own discipline after a time away?

(Professor Ogston) Far too often they are employed for short periods of time, perhaps three years, and then they move on to another department or post-doctorate fellowship and have no career structure at all. I feel the departments do very badly by this.

Chairman

405. Because they have got to go somewhere where they can raise the funds?

(Professor Ogston) That is right.

406. What would you say about this question of security of tenure? Do you think over a period of time security of tenure should be part of the basis of employment?

(Professor Sir Patrick Forrest) For whom? For scientists or doctors?

407. For research workers.

(Professor Bouchier) Most of us now are putting young men not on security of tenure; we are all giving fixed contracts.

(Professor Sir Patrick Forrest) Universities have still got a fair number of members of staff on full tenure who are not doing what one would expect of a university member of staff.

408. That is right. That is an embarrassment.

(Professor Sir Patrick Forrest) It is.

(Professor Campbell) It is a crying shame that we have greater security of tenure there. It is a Health Service problem as well as in the university.

Baroness Lockwood] We were told this morning that if you are on a three-year contract, at the end of a year and a half you are beginning to think where your next contract will come from, so is that a good thing? Is that the way to attract . . .?

409. You can put it the other way round. I am not a great believer in too much security of

[Chairman *Contd*]

contract, because you might say that is going to create a feeling of insecurity. On the other hand, you can say, "By Jove, we have to make a good job of this because in that way we are going to get a renewal of our contract."

(Professor Sir Patrick Forrest) It also creates mobility, which is also important.

(Professor Griffiths) But it is not as simple as that either, sir, and it really brings us back to the fundamental point that the amount of time and resources now available to train the young man in research are completely inadequate and we have seen that there are a lot of factors militating against this. The net result of this is that you now have presented to you if you are working in a university department and you are trying to appoint a senior member of staff, a senior lecturer, and he comes to you fully trained as a clinician, perfectly suitable to carry out his Health Service duties, but he has had so little time to really demonstrate whether he is a good researcher or not. We are now being forced into the position of appointing people as clinical senior lecturers, offering them a short-term contract (by "short-term" I mean five years, which gives you at least three years to see where they are going) and after about three years you can say to them "Yes, you are going to be suitable for continuing in the research line; you should stay in an academic department" or "You should start looking for a job in the Health Service". That is the way things are beginning to change and it is being forced on us because the men just have not had the opportunity. You cannot say they have not got research potential—we do not even know.

410. You have no basis for knowing.

(Professor Bouchier) One of the problems then is that at that stage it is actually difficult for them to get back into the Health Service. I think to give a fixed-term contract for a young lecturer is a very reasonable thing. I think most of us would do that. You give him five years: three to see if he is worth anything and then two years to make the change.

Lord Rea

411. Is not the corollary to that that there should be opportunities for them to go to? If there are actually more people wanting jobs than there are jobs, they are working under a very difficult handicap.

(Professor Bouchier) Correct. As we said earlier, one of the problems is they are continually looking over their shoulders to see if there is a job they can move into, and they move out before they have necessarily completed their training.

Chairman

412. May I pick up a reference here in the paper from the University of Glasgow, in which you say: "A glaring deficiency in Clinical Research is in the *evaluation of practice* (procedures and technologies) in hospital."

(Professor Campbell) If I can put a little flesh on the bones, it is not an original thought, sir. It would seem to me that it is implicit in asking for more funding for research to seek better coordination of funding agencies (which we have mentioned in most of the papers) even if no further money is to be given for research—and one would have to accept that—there is still a glaring deficiency in the way the money is coordinated.

413. The way it is coordinated or the way it is actually spent?

(Professor Campbell) I think coordinating is one thing and, regardless of the amount of money, this is the deficiency in the system. Beyond that there is how the priorities are set and the inevitability of the glamorous projects, the high profile things, perhaps getting not more attention than they deserve but a preponderance of attention and little to the less attractive but important matters of epidemiological research and the evaluation of outcome. We talk about audit and so on, actually having a look objectively at what comes of some of our research. It has been said before by my predecessor that there is a need for an agency, or for one of the existing agencies, to have a look and concentrate deliberately on that aspect: the outcome of where the money is applied.

414. Would this come in the category of health service research?

(Professor Campbell) I think so. It comes under the applied research heading more than the basic research or the medical science heading. Obviously talking from a university point of view, which we are this afternoon, we are perhaps more interested in the clinical academic aspects of research but I think probably all of us would also be interested in evaluating what is done. It takes a long time-scale, it is difficult and tedious to do, it is not glamorous and requires a longer horizon. Therefore, it does not attract attention.

415. Very big money is involved.

(Professor Campbell) Very big money and of potentially more benefit to the country.

416. What are you doing in the academic world to train health service researchers?

(Professor Campbell) I think a great deal. In conjunction—as Professor Bouchier has said—with the Health Department and the CSO (which Sir Patrick is in charge of) there is a sort of symbiotic partnership, if you like. We take in young clinicians and train them in scientific methods, even if they are not going to be medical scientists and make a career out of it. There are very few opportunities, as we have been hearing, sadly, to stay in the academic structure; very few incentives to attract the best people, even for a short time. Nobody has mentioned it, because it is tasteless to mention it, but it is money again. There are also other attractions to young men and women who look at the private sector now as a very rewarding and attractive alternative to whole time NHS work, or NHS work with an academic interest, or full-time academic

[Chairman *Contd*]

work. I am afraid the knock-on effects of recent changes are beginning to be measured by the Health Service and, certainly, in the teaching hospitals. So that I think all these matters are important. Regardless of whether we are seen to be asking for more money or not, I think the actual way in which it is administered and the way in which you monitor your results over the long term, not just four or five years, is in need of being addressed.

417. Where should that be done, do you think?

(Professor Campbell) I think you have got the MRC, you have got Wellcome and the big charitable trusts, we have got the SHHD, the DHSS and the universities, and I think it has to be some sort of coordinating body. There is already informal consultation across the board about priorities and that is mentioned in the Principals evidence to you. I do feel, sir, there is a need for some coordination.

418. This would depend how you hypothecate funds, would it not? You mention the MRC. The MRC will say "We have not got enough money to fund the excellent research projects that are put to us".

(Professor Sir Patrick Forrest) Which is true. They do not have the funds.

(Professor Campbell) They do not have the funds but they do not have the projects either.

Lord Rea

419. In what respect do they not have them?

(Professor Campbell) The country does not have the people. We have not got the people to do it.

Chairman

420. We have not got them because they have not been in demand or because they have not been trained by the universities or what?

(Professor Bouchier) May I answer? I think it is a complicated system and the reason is that in a sense (and Walter knows this better than any of us) it is a relatively young research discipline and it is a discipline that requires the interaction of a lot of specialists: economists, sociologists and very often psychologists.

421. It is not a young discipline in many other walks of life; it is known as operational research.

(Professor Bouchier) It is young for the medical profession, it is young for us. There is not a background of people well-versed in it and, particularly, there is not a background of clinicians. Most of us who have done our research training have done it in standard physiological laboratories or biochemical laboratories; no one has been and done a research job with an economist, for example, and then come back and worked in the Health Service. So it is very much a matter of feeling the way. Unfortunately, although, in Scotland, for example, and we think in England as well, there is money available, when you look at the quality of the research projects that come through they are poor. It is because people have questions to ask. They can ask the right questions all right, but they have no idea how to do the research properly, and it will take time for that.

Lord Rea

422. Should it be doctors actually who should be doing this research?

(Professor Bouchier) But the doctors are not properly trained to do it.

423. Sir Patrick, since having been in the Chief Scientist's Office this was obviously a problem that exercised you considerably. What was your experience in trying to get people interested in this very important aspect?

(Professor Sir Patrick Forrest) There are several problems. Unquestionably, one was the people. Opportunistic projects were so often not supported by the Reviewing Committee, that we, rightly I believe, set up research units and try to gather good professional staff together. We had an Operational Research Unit in Glasgow but this failed, partly because the Health Boards, those who were delivering health care, did not continue to go to that unit for the sort of research which we felt should be part of setting up their business. The facility was there but it was not being used.

Chairman

424. It is a sort of chicken and egg in a way, is it not? There is obviously a need, with these enormous expenditures, for looking at whether things are being done efficiently and effectively, but until you do it you have not got anybody who is sufficiently experienced. Then you say, "We will provide some funds for Health Service research." That is no good; you will never get any projects worth putting any money behind, because you have not got the people with the necessary experience.

(Professor Bouchier) It is a problem.

(Professor Sir Patrick Forrest) I am not impressed that our managers think sufficiently of the need of applying research to management.

Chairman] With health service research, should the initiative really come from people putting up projects or should it not come from the Health Service management? You say, "We are spending X million on this. Surely it is possible to save 10 per cent of this, and let us have a research programme to look into it, how we get 10 per cent out of it without damaging the service."

Lord Hunter of Newington

425. Taking that point, Chairman, could you tell us whether you think the introduction of managers into the Health Service is going to influence this or not?

(Professor Sir Patrick Forrest) It will only influence it if the managers wish to use the results of research to run the service as effectively, efficiently and economically as possible, I see no signs so far that they are going to want this information.

Lord Kearton

426. Professor Kennedy mentioned this morning that in his Authority the new managers made savings of £20 million in two years, which has been ploughed back into the general improvement of patient care and so forth. (This is on a budget of £400 million.) I asked, "Was this the end?" and he said, "No, this is after two years." The obvious thing is that there are a lot more savings to come, but that implies a certain percentage of these savings could be usefully set aside for the sort of thing you are talking about, as in industry it would be.

(Professor Bouchier) One of the things that I have always thought of tackling is the fact that clinicians trained in Health Service research can go and function as clinicians in their daily work and acquire techniques which they can use throughout their career, and they can contribute to research all the time, whereas someone who has been training in biochemical, biomedical type of research has more difficulty having access subsequently to the high technology which he has to use. I have always felt it is a great pity that we do not train more men in health service research, because they can make a major contribution to ordinary, every-day work.

Chairman

427. Who should sponsor that? Who should pay for the training?

(Professor Sir Patrick Forrest) One of the snags of any research agency is that it is funded to do research, not to train people. We could not in the Scottish Home and Health Department establish training courses, which I wanted to do, because this would not have got through the audit system. This was my understanding of the situation. I think the MRC has just been grappling with this one over training studentships and intercalated awards.

428. It should be the MRC, should it?

(Professor Sir Patrick Forrest) No. They got a letter from the Public Accounts Committee about training fellowships.

Lord Hunter of Newington

429. The Scottish Home and Health Department pays for intercalated year——

(Professor Sir Patrick Forrest) No, that is the Scottish Education Department.

430. They pay for this, whereas the English Education Department does not.

(Professor Sir Patrick Forrest) Yes, but the MRC of course back up.

431. The MRC fill the gap.

(Professor Sir Patrick Forrest) But they are being severely curtailed now.

(Professor Bouchier) But with due respect, sir, to do an intercalated year or anything as brief as that, it really would be someone who, say, during his time as a registrar in the Health Service, or senior registrar, for half his time has a secondment to a unit which is actively involved in sociology or epidemiological research, and so he has his training in two areas, so by the time that he has finished his clinical training, and we accept it may have to be a foreshortened clinical training, he has also had experience working with sociologists and economists and has come out knowing the right techniques to acquire in order to do the work.

432. Does that not come out after having done some basic scientific training?

(Professor Bouchier) Yes, you have got to have that, I agree.

(Professor Sir Patrick Forrest) One of the problems to reconcile is the difficulty of training outside one's own speciality. Everybody sees the need for multi-disciplinary research and, indeed, for people to be trained who are capable of doing it, but how does one do that without unduly prolonging their training programme which is already excessive. To persuade a young surgeon to come out of surgery to enter a research programme in another discipline for two years; to do that on top of everything else, when they are having to wait so long—as we have heard—to achieve Consultant status; is really asking quite a lot. Even the best and most able ones would find it difficult. To train and to make opportunities for movement across the specialities—even if they are funded—is quite difficult when the training programmes are so long.

Chairman

433. Does it not rest with the universities to introduce intercalated degrees?

(Professor Campbell) I think it has been most successful. I think it needs more funding. I think intercalated degrees have been successful to a degree and you could build on that. It is one of the points we have made in the written evidence.

(Professor Bouchier) Sir Patrick and I were chatting about this earlier and I think we both felt if we were doing this kind of thing we were talking about it is very important that the universities are involved; that although a lot of this will go on within the Health Service and the support may even come from the Health Service, it should be masterminded by the universities who can ensure that the proper academic standard is reached.

Lord Rea] And bringing in the other disciplines as well, because that is where they have a base.

Lord Hunter of Newington

434. Not necessarily through the University Grants Committee.

(Professor Bouchier) No, no.

(Professor Griffiths) The difficulty with an intercalated degree or, indeed, a second degree is that the student is not easily funded for it. In Scotland the intercalated degree is funded reasonably well, as Lord Hunter has pointed out, but if the student is from England he has difficulties. The local authority will not fund it and the MRC has been told it should not be funding them and, equally, it is very

[Lord Hunter of Newington *Contd*]

unusual for a student to be able to do science and medicine. Yet long ago it was pointed out there was a very strong need for at least some people who were going to do clinical work also to be trained formally in science but the country cannot afford to give grants for two different degrees. I think it is, perhaps, a mistaken policy but that is for others to talk about. But there is a need for a number of people to have intercalated degrees. I do not think there is any university represented here that does not offer intercalated degrees and we could train far more people if the students could get the support necessary. There is, in addition to the lack of financial support (and I do not know whether this is the same in the other universities) a reluctance I am beginning to detect among students, in fact, to take time out to do it now because they see this as a hindrance to getting on the ladder. They feel they have got to get on the ladder even as students and not to wait till they are actually qualified to get on the ladder, and there is a reluctance to take time out to do this work.

Chairman

435. They are more career-structure minded these days.

(Professor Griffiths) Very much more so.

(Professor Bouchier) Because it is difficult; there is tough competition to get your consultant posts, whichever discipline you are in.

436. You used to qualify for that by getting a broad breadth of experience but now it is more a question of getting on the bandwagon.

(Professor Bouchier) Yes.

Lord Kearton

437. All the emphasis is on the ladder, always leading to consultancies. One of the professors giving evidence this morning was saying, rather ruefully, some of the bright students now decide they are not getting on to this consultancy ladder, it is not difficult. But "dash my buttons" they are getting into general practice. Is that such a bad thing?

(Professor Sir Patrick Forrest) No.

(Professor Bouchier) I must be very careful now. I think it is a bad thing because I do not want to in any way decry general practice; it requires intelligence, ability and skill, but you must not forget we are creaming off the very brightest of the whole nation who are coming into medicine. If we are saying the very brightest of the whole nation are going into general practice then I would expect a much higher quality of practice from general practitioners and I have not seen that. Is that what the nation really wants?

Lord Kearton] One of the things devised when new drugs were introduced, I think, was the yellow card system, on which general practitioners are supposed to note the side-effects, send it up, they are collated by hospitals and so forth, but various symposia I have been to imply that the quality of returns is pretty poor and the quality of response is very poor. We have also got the thing where I have been to various symposia—in fact I was on one of these Select Committees on occupational health about three years ago—when we were told if we believed what was on the average death certificate we were really rather deluding ourselves, which would imply there is quite a need for improvement in the standard of general practice.

Lord Rea

438. You are not the only person who has said that.

(Professor Bouchier) I think, with due respect, you may even say it is a great waste of national talent to go into medicine itself—seriously, industry and the rest of it; it may not be the best thing for the nation to attract our very brightest intellects into medicine, and that is all I am saying. To put half or more than half into general practice may be a waste of the best of our country. It is a problem I think we should think about.

Lord Kearton] It is relevant.

Chairman

439. It is very difficult to evaluate in economic terms.

(Professor Bouchier) Yes, I accept that.

(Professor Campbell) There is a general belief though that, apart from improving our preventive techniques, an improvement in primary care would be valuable, but it is more faith than anything else. I would not be against good people going into it. I have actually taken students out of medicine and put them into engineering because I was the first person to actually ask them why they were doing medicine because they were clearly unsuited to it, but the reasons were many—you can guess them—something to do with security, which is ridiculous nowadays; social status, which is equally ridiculous; the Jones's next door—I do not know. We do not need them as doctors or want them. If I get them into engineering, the country will be able to afford doctors. Certainly, to take them off into medicine and then not make the fullest use of their talents is a crime.

(Professor Bouchier) That is where women come in. My understanding is that in girls' schools the headmistresses, when they counsel their brightest young girls, say, "Medicine is the career for you," and that is one of the factors which brings so many women into medicine. They are told at school that it is an ideal career for a woman, without asking whether the woman is suited for it at all.

Chairman

440. Should it not be?

(Professor Bouchier) I am just saying that in terms of taking such a bright group of people into the speciality or discipline of medicine, they should be spread wider over the country's resources.

(Professor Griffiths) I think this, in a sense, brings one back to the point Baroness Lockwood

[Chairman *Contd*]

was exploring earlier and, with the higher proportion of girls now going through medicine, general practice is particularly attractive to them because it is more evident that you can do general practice because the initial training period is not quite as long in some senses and to do a part-time job in general practice is very much easier.

441. You can organise your practice?

(Professor Griffiths) You can organise your practice, as indeed very many successful general practitioners have done and are doing.

Baroness Lockwood

442. You still have not solved the problem that Professor Bouchier talked about, which is using the best talents to the best effect for the country.

(Professor Griffiths) I am not suggesting it solves it. I am explaining the phenomenon, not defending it.

443. It is like teaching. Being a doctor or being a teacher, you can fit into your domestic commitments.

(Professor Griffiths) Yes.

Chairman] One keeps on coming back to this career structure and so forth. We have really got to have a set-up which makes it attractive for people to go to the place where they are most needed: incentive. It is no good saying that people should be going into this or that or the other if in fact it is the least attractive way for them to go.

Lord Rea

444. As far as research goes, it is not a question of incentive. There are a lot of people who want to go into medical research. The problem at the moment is that there are a lot of disincentives. They do not have a better career structure; they have a worse career structure than if they do not go into research.

(Professor Sir Patrick Forrest) We have also evolved in this country a somewhat crazy system of running our teaching hospitals. In the States and Scandinavia there are clearly defined institutes, university hospitals, which are staffed by academics. The whole atmosphere of these hospitals, as opposed to just one part of a hospital, is geared towards research.

Chairman

445. The whole hospital is not split between the university and the NHS.

(Professor Sir Patrick Forrest) No. I have always believed that this is a very weak area in the British system.

446. That is pretty deep in our system, is it not?

(Professor Sir Patrick Forrest) It is engraved!

Baroness Lockwood

447. Professor Campbell was saying earlier that in the career structure there are now alternatives such as the private sector. Do you see the private sector growing here in Scotland? If it is providing an alternative career structure, is it also providing any contribution to the research base?

(Professor Campbell) Could I answer it the other way round, your last question first, no, emphatically not. It haemorrhages off half the young people who have been trained at technician level, nursing staff level, people who might have chosen to stay whole-time in the Health Service, perhaps in an academic related appointment, or indeed stayed in full-time university work. In Scotland it is rather different from the rest of the United Kingdom. It has been less of a feature to date, although I would not be complacent about that. There are qualitative differences already discernible in university departments where we have worked. In the past you could not see the joins between our full-time colleagues and ourselves in terms of teaching and sharing responsibility. They were an extension in their honorary university appointments of relatively small university departments. The younger men and women do not necessarily see it that way now, in addition to the fact that, apart from salaries and obvious things, there is a certain freedom of action in the private sector which appeals. They can tailor their own lives perhaps more readily to that scene. It is not huge here, but it is growing, and I think it is one of the more serious things. We hear a lot about the "brain drain abroad"; I frankly am more concerned about the inward drain, the haemorrhaging inside the system. It takes a lot to train a nurse or a technician. They are valuable people. If they go to industry, that is bad enough. If they go into the private sector, they contribute little to what we are talking about, and we get little back for all that time and training and effort.

That is not an ideological statement, it is just a fact. I think it is particularly noticeable up here where there has been virtually, in 35 years of the Health Service, whole time and whole-heartedly a very comfortable relationship between the Health Service and the universities, which perhaps is not the case everywhere. This is where some of the strain is at the moment, mainly because of the shortage of finance and its effect on the "knock-for-knock", relationship as it is called; of which every successive report, right down to the Croham Report, has said "For heaven's sake, whatever you do in the interests of the economy do not interfere with that delicate, difficult and profound relationship", and that is what we are concerned about. It is under a tremendous strain now, and that is one manifestation of it. So there is an inward drain. I am not so concerned about the "brain drain"; we have explored brains from Scotland for 200 years! But, of course, I would not wish to be flippant about it, but that is not the worst aspect.

Lord Kearton

448. I am tempted to ask the question: are there any non-Scots in the Scottish medical establishments?

[Lord Kearton *Contd*]

(Professor Campbell) Yes, in my own department!

Chairman

449. I am rather interested to explore a little bit your experience in the post of Chief Scientist in your Department of Health in Scotland. What is the role of the Chief Scientist there? Because the department is rather the equivalent of a Regional Authority, as far as we are concerned in the United Kingdom, size-wise.

(Professor Sir Patrick Forrest) I think there is a difference in that here you are there as one of the Chief Executives within the Health Department.

450. That is the fundamental difference?

(Professor Sir Patrick Forrest) That is one fundamental difference, we also have an infrastructure which is directed by professional researchers. You have the advice of both Health Service Research and Biochemical Committees, which are composed largely academics and other clinical research workers in Scotland with additional input from policy-makers and health service managers. Quite apart from its effectiveness as a research agency our organisation also has tremendous value, in the way which it brings those interested in research together, sitting round the same table.

451. It is conceived as a passive role—in other words considering the proposals put to it—or is it conceived in an active role of looking around and saying "This is not being properly covered"?

(Professor Sir Patrick Forrest) It has executive powers within its budget, which at the moment is about £4.3 million.

452. So it is actively looking for areas that need attention.

(Professor Sir Patrick Forrest) We are constantly looking for areas to explore and put money into to get research done.

453. That is not done in the DHSS, is it?

(Professor Sir Patrick Forrest) I would not comment on the DHSS.

454. We have not seen them yet.

(Professor Bouchier) With all due respect, I am not sure if it is fair to expect the DHSS to do it. I think the important thing is, if they do something like that and it is related to research, that there is an advisory group or even a supervisory group of professional research workers, which means it should be linked to universities. It is very important to have that link.

455. You are looking at the university research too.

(Professor Sir Patrick Forrest) Yes, most of the research is done within universities. We have units within university departments as well as autonomous units. For example, before I left the office we were concerned about the delay in implementing the results of research molecular science into medical practice. I believe there is a gap which this country has got somehow or other to close. We set up a small working group had a few lunchtime meetings, leading to an initiative that was relatively small but, I think, important. This was to meet with the Presidents of the Royal Colleges of Scotland and with the President of the Royal Society of Edinburgh, and with them set up a series of symposia which will be held three times a year and which will try to bring to clinical staff in Scotland the advances of leading to developments in science which may have clinical application, for example molecular biology and molecular genetics.

456. It sound quite an important role.

(Professor Sir Patrick Forrest) We could easily do that off the top—I think we put £5,000 pa into it.

457. You initiated also some research into educational procedures and so on, as well, did you not?

(Professor Sir Patrick Forrest) Educational in terms of?

458. The medical staff.

(Professor Campbell) Some of this money came from the Home and Health Department to the Scottish Council for Postgraduate Medical Education. It went through our other system.

(Professor Sir Patrick Forrest) We do not have an educational role, other than through the——

459. Health education? Was that then successful?

(Professor Sir Patrick Forrest) Yes, the Scottish Health Education Unit have made a fair impact, both for our part and——

Baroness McFarlane of Llandaff

460. How do you evaluate that kind of work?

(Professor Sir Patrick Forrest) You can only evaluate health education by studying the effects of education on defined parameters. The sort of study that was supported in Edinburgh was one looking at the impact of health education on in the attendance of women, for screening. You must have a clearly defined effect or objective to measure.

Lord Kearton

461. The impression made by the account given in the written description of the Chief Scientist's Office objectives is that it is extremely comprehensive and satisfactory, and I do not get the feeling that you really wanted more than the £4.1 million. Nearly everything was done on spontaneous applications.

(Professor Sir Patrick Forrest) I think it is about right.

(Professor Bouchier) One thing Sir Patrick has not mentioned is that in the units he has established—I can think of at least three—written into the agreement of the unit is a training role for research. The Dundee unit has got that, the one in Aberdeen has got that very clearly, and the others.

[Lord Kearton *Contd*]

So the Chief Scientist's Office is very conscious of the fact that their units that they have established have a very important role in training other people, and it is not in the bio-medical researches; it is in the other areas of science that we have been talking about.

Lord Rea

462. That was allowed, was it?
(Professor Bouchier) It is funded as a separate unit.

Chairman

463. Who is your opposite number?
(Professor Sir Patrick Forrest) He was Sir Desmond Pond.

464. What was the post?
(Professor Sir Patrick Forrest) He was Chief Scientist, DHSS. The first was Sir Douglas Black then Professor Arthur Butler and then Sir Desmond Pond. Now Professor Francis O'Grady who is part-time.

Chairman] We have not taken evidence from him yet, but his role seems to be rather different.

Lord Hunter of Newington

465. Why has O'Grady gone part-time?
(Professor Sir Patrick Forrest) I believe because they felt what we did here (part-time Chief Scientist) works rather well. One is firmly in touch with the profession.

Baroness Lockwood] The DHSS Chief Scientist did not have the positive role.

Chairman

466. He was not executive, if I remember rightly.
(Professor Sir Patrick Forrest) The Office of the Chief Scientist of the DHSS ought to be able to work in the way their Chief Scientist wanted.

Baroness Lockwood

467. He did not initiate projects as you did.
(Professor Sir Patrick Forrest) DHSS have units and support projects.

Lord Rea

468. I have a feeling it was more monitoring.
(Professor Sir Patrick Forrest) Every month I met the Chief Medical Officer at 8.30 on a Monday morning, to discuss things he felt we should be perhaps thinking of.

Chairman

469. Do you rely on the role of MRC as well more so than on the Chief Scientist of the DHSS?
(Professor Sir Patrick Forrest) One was very closely in touch with MRC. I sat on Council as an assessor and I had the right to attend any of the Boards. A lot of business was done on the telephone with MRC officers.

Lord Hunter of Newington

470. How much money does the Scottish Hospital Endowments Research Trust have now?
(Professor Sir Patrick Forrest) It is about half a million.

471. That is quite substantial. Chairman, this was half the money from the hospital endowments put in a central pool, which was very valuable.
(Professor Sir Patrick Forrest) The Chief Scientist's Office acts as their research agency in that it reviews applications for support.

472. You have that money, the Chief Scientist has the Government money, and that money is disposed of.
(Professor Sir Patrick Forrest) Yes. That money is disposed to buy research.
(Professor Campbell) Can I enlarge on that a little? This seems to be bringing us back to funding medical research and the Chief Scientist's Office in different ways I have always thought served a fantastically valuable function of almost venture capital. You could prime smaller projects, back unknown individuals, the dark horses who might turn out not to be runners or might be winners, before we went to MRC or Wellcome. It is interesting now to note the enormous pressure on these funding agencies by people who perhaps would not have been there before, not just for priming money for a small pilot study but to actually do an MRC-type project. They are looking for more money. We noticed this in one of our Trusts, which the Scottish Deans administer. It has 72 applications this year, for something which used to rate about eight, from major university departments in each of the university cities in Scotland, and more than half a dozen from some individual departments within a university, suggesting to me and my colleagues the enormous pressure on the system to get started, in research, to get that initial start. Perhaps we are getting the wash off MRC and Wellcome who are not able and have stated, as a matter of policy, they are no longer supporting short-term projects but will be looking more to fund fewer, major programmes.

Chairman

473. So you could get more private money——
(Professor Sir Patrick Forrest) We had a very clear policy not to support established workers. If we felt they should go to MRC we say "Go to the MRC". Occasionally MRC would pick up something that came to us that was very good because it was felt by both of us that it was appropriate that they should fund it. Conversely, when the MRC had financial problems we picked up several of their awarded grants that they could not fund.

474. The MRC do not have a block of funds which they reserve for small pioneering exercises?
(Professor Sir Patrick Forrest) Up to a point.

Lord Hunter of Newington

475. This was all happening despite the fact of what you have told us before, which is there is not a career structure. There are still more and more demands for money and people to do it.

(Professor Bouchier) Can I say this is happening in spite of the fact that the universities have actually lost staff. I am sure the reason for this is that there is enormous pressure in universities at the moment for a department to demonstrate it is earning money. So the pressure is from the Head downwards, that everyone has to be shown to be earning research monies.

(Professor Campbell) Our funding by UGC; in fact, is related to our major research grant funding, you get so many "brownie points." It may be that we are doing that in an inappropriate way, as a matter of almost reflex defence.

(Professor Sir Patrick Forrest) In answer to your point, I believe that the MRC have now started a scheme whereby their boards can make small grants simply without requiring the full review process, as any office procedure.

Chairman

476. Do you work on the same basis as they do? Or do you get your advice in a different way?

(Professor Sir Patrick Forrest) They are similar. We go out to referees and use peer review.

477. But you probably have closer contact with research boards.

(Professor Sir Patrick Forrest) We have three research committees. One uses research into the equipment for the disabled because we felt that was a very high priority. We set up a research Committee for this purpose. It has been very successful.

Baroness Lockwood

478. In other words, you began to look for research on that one.

(Professor Sir Patrick Forrest) We were not satisfied with the way it was being handled.

479. Did you have any difficulty in getting worthwhile applications?

(Professor Sir Patrick Forrest) It seems to have run reasonably well. We have got a very good chairman who is enthusiastic.

480. In other words, in the kind of research you initiated and sought, the response was equally good as the spontaneous applications?

(Professor Sir Patrick Forrest) Yes.

Lord Rea

481. Did you actually take any particular steps, or do groundwork, to find out to whom you should address...Did you float ideas?

(Professor Sir Patrick Forrest) I maybe giving a wrong impression. I do not think you ever can guarantee directed or contracted research is going to be good research. There will not necessarily be the people there at the time with the ideas in the area that you want to explore. At the moment the MRC are showing how this can be done with a directive for research, on an AIDS vaccine. That seems to be working very effectively.

Baroness Lockwood

482. What do you do if there is a need for research in a particular field and there are not sufficient people who can undertake that research?

(Professor Sir Patrick Forrest) We can consider setting up a unit around one person who is good. For example we have recently initiated a Health Services Research Unit in Aberdeen.

483. And who can begin to develop an expertise.

(Professor Sir Patrick Forrest) Yes.

(Professor Bouchier) Each year the Chief Scientist has a meeting in which he identifies research priorities for Scotland, and a statement comes out which is widely disseminated amongst the hospitals and put in a health bulletin to the medical schools identifying areas of concern to the Chief Scientist. In any medical schools who identify someone there who has got that expertise the Dean immediately goes to them and says: "Look, here is something, what about it?" I think the message gets around.

Lord Rea

484. What about someone who says, "I am interested in that. I have not got the expertise but I think I would like to learn"?

(Professor Bouchier) Can I respond? All he has to do is 'phone up the Director of the Chief Scientist's Office, and they will help him. It really is that sort of situation.

(Professor Sir Patrick Forrest) We have very good communications. That is partly because of having a part-time Chief Scientist, I was out in the open field.

485. I do not know of that facility being available in England. I may be wrong. Do you know if it is happening south of the border?

(Professor Sir Patrick Forrest) The structure is there. All I can comment on second-hand is that colleagues find it much more difficult to communicate with it. They are much more isolated in Newcastle from the Elephant and Castle than (if we redrew the border at Durham), they would be if they could come up to Edinburgh. Scale is very important. The numbers in Scotland are no bigger than in London or a regional health authority in England.

(Professor Sir Patrick Campbell) It would be more analagous to that.

Chairman

486. Can I introduce another element to our discussions which has not been touched upon and, curiously enough, very little has been said in the evidence we have received to date, and that relates to research and development of medical equipment. Would you have any views on that? We seem to be

[Chairman *Contd*]

very good at producing ideas but when it comes to developing the equipment, the Japanese and the Americans and the Germans pick it up and we seem to be very bad at developing it. ACARD did a report on this. I do not know whether you have seen it. It is a very depresssing report.

(Professor Sir Patrick Forrest) CSO in SHHD have a specific panel, which fund research into new equipment. The panel was a very small group—we did not go through a big committee structure, which we funded regularly a number of projects to the tune of about £100,000 a year.

487. Did you take the initiative or did you just look at projects?

(Professor Sir Patrick Forrest) No, we took in projects that were coming, but we did take initiatives in pointing the way to industrial development.

488. Did you get a good response?

(Professor Sir Patrick Forrest) It was very difficult.

489. My own experience in this field is that the DHSS ordering policy of equipment is so erratic. It makes it very difficult to encourage industry to take an interest, because you never know whether they are going to order the equipment when developed or not.

(Professor Sir Patrick Forrest) The equipment buyers in the Central Services Agency do also have an Equipment Committee, which evaluates new equipment.

490. But are they not more concerned about getting the maximum equipment for the least amount of money, and if they can get it from overseas for less money, it does not worry them very much?

(Professor Sir Patrick Forrest) They have to try and get the most cost-effective equipment.

491. Which will not develop an effective British medical equipment industry.

(Professor Bouchier) There is a Scottish Development Agency, and they dabble in this field a bit, and I think all of us have had the odd contact with them about the possibility of doing something. I have not always found it easy, but they are interested.

(Professor Ogston) They certainly contributed to some of the university technology transfer companies which develop medical instrumentation.

492. From the university to specific firms?

(Professor Ogston) That is right. They will provide part of the venture capital.

493. Is that working, would you say?

(Professor Ogston) I am not in a position to give you a definitive answer. I think the SDA has, in fact, been helpful, but whether the provision of new and useful equipment...

(Professor Sir Patrick Forrest) Aberdeen was well ahead in the magnetic resonance imaging field, but the industrial development of that has fallen flat on its face I suppose, because the firms concerned, could not carry out the developments.

(Professor Ogston) They were under-funded. That is true. That has happened twice for what is, of course, a very expensive piece of equipment.

(Professor Campbell) Pacemakers are, perhaps, a more mundane one but they spent a vast sum on buying cardiac pacemakers for the NHS which were highly developed locally but never picked up by industry. Most of them are American built or Japanese built now, but we had some of the important advances way back and they were done within our own departments. This business of bridging the gap from the prototype to the factory product never succeeded and now we import them at large expense. But that is a very common story in British industry and the medical industry is no exception.

(Professor Sir Patrick Forrest) It must be a measure of market size, in part.

Chairman] It is partly market size and I think it is partly, as I say, purchasing policy. It is purchasing policy to foster and develop your own industry or is it just to shop around and get the cheapest thing you can find?

Baroness Lockwood

494. There is another question: is it up to industry to experiment and initiate new equipment, or is there not a role particularly for the universities involved in medicine to indicate the kind of advances that they would like to see?

(Professor Campbell) The answer must be yes. Heart valves are a case in point—to find a cheaper and better valve than we import from all over the world. That was done and eventually a firm was interested (the universities are very interested in the Science Park scene now). Not too many of the combined successes have been with medical departments as distinct from science and engineering, but that recent one, with the help of the Scottish Development Agency (I have to say rather bitterly) was, I think, one of the few successes. They have not a good track record in the medical field, as distinct from other areas. But this valve thing is going to be arranged with all the necessary bridging finance so that it can be produced in quantity far more cheaply locally and will provide employment etc. I cannot think of too many others where we have not seemed to have made the initial development and then lost the production.

Chairman

495. What has been your experience, Professor Griffiths, with channel analysers and computers and such equipment?

(Professor Griffiths) I was interested in the recent part of the conversation because there is very little British industry, in fact, in the medical equipment business. Certainly in terms of that type of equipment British industry has all been bought up.

[Chairman *Contd*]

496. By Americans?
(Professor Griffiths) Mainly American, yes but not entirely American. The bulk of the equipment now comes from America and Japan. They have subsidiaries here but what I find quite interesting is that the degree of evaluation in the field before things are put on the market, in the States for example, is appalling. We buy stuff over here and we find it does not work and we have to show them the way. We are much better at evaluating than they are abroad.

497. There seems to be something wrong here. I do not know what it is, but we have the ideas but we do not seem to have the incentive to commercially exploit them.
(Professor Griffiths) Yes, indeed.

498. The industry is sort of dying on its feet.
(Professor Griffiths) I think the truth of the matter is that the development now of major medical equipment is an extremely expensive business. It means that you have to carry a big R&D staff, it is very expensive, it is very competitive and, therefore, you have got to look to world markets.

499. You can never develop a world market when your own Health Authority does not buy the product.
(Professor Griffiths) No, it would be very small, in any case. I think the other factor is, particularly with a lot of the equipment of course, that we are serving the Health Service, which is a—this is a good phrase for the Health Service—non-profit-making organisation, and whereas abroad so much of medicine is private, and indeed, many hospitals were surviving by the profit they were making from laboratory equipment, for example, particularly in the States. It is a very different environment in which to work and in which to market.

Baroness Lockwood

500. But if hospitals in the States, as you say, were surviving by manufacturing equipment——
(Professor Griffiths) No, no. By utilisation of it, which meant the marketing was so much easier, and therefore the market was bigger.
(Professor Bouchier) It is also a different way of working. I can remember fifteen years ago a chap from Chicago telling me about his new magnetic scan. That was going 24 hours a day and they were making money out of it. You will not get anyone in the Health Service doing that. They were using it in the hospital 24 hours a day, round the clock.

Lord Hunter of Newington

501. The people using it; the patients were paying.
(Professor Bouchier) Oh yes, but the staff was working too. That is the point. The radiographers were coming in and working a night shift.

Baroness Lockwood] We saw something at Guy's where they said they would have to use it 24 hours.

Chairman] We have now covered the field pretty well. I do not know whether there are any other questions.

Baroness McFarlane of Llandaff

502. I just wondered from the Office of the Chief Scientist what kind of consideration was made of allocation of research funds to other professions. I know you have a research unit for nursing.
(Professor Sir Patrick Forrest) The Chief Nursing Officer—Miss Auld, sits on the Chief Scientist's Committee and on the Health Services Research Committee. Nurses, both from within the Department and outside sit on some of our research committees. As you say, we founded the Nursing Research Unit and support nursing research projects and training research fellowships.

503. What about disciplines like physiotherapy and dentistry?
(Professor Sir Patrick Forrest) We have a Dental Health Service Research Unit in Dundee. Dental research, as you well now, is a very difficult area nationally. I did not know of any research in physiotherapy: It is a different area.

Chairman

504. Difficult from what point of view?
(Professor Sir Patrick Forrest) Orthopaedics is an area of high priority (for example backache) both to MRC and to our office, but the amount of research done is relatively small.

Baroness McFarlane of Llandaff

505. Yes, I am wondering in terms of resource in the Health Service. Some people say that there is no evidence that methods used by physiotherapists are, in fact, productive.
(Professor Sir Patrick Forrest) They give comfort.

506. We do not know, do we? At a subjective level.
(Professor Sir Patrick Forrest) They must do something.

507. I was wondering if the Health Service pours resource into that kind of service if there is not a responsibility to research its effects.
(Professor Bouchier) I think they have got to learn like the nurses. It has taken a while for the nurse to realise that you could look critically at a function and see whether they need it. I think it is even more difficult for a physiotherapist to ask the question "Do you really need a physiotherapist to improve your post-operative or post-stroke management". You are putting them out of a job, in fact. So I think it has been very difficult to get them to accept the fact that yes, you should do operational research on them. Plus it is very difficult to design a proper project.
(Professor Sir Patrick Forrest) Sports medicine is a developing area, though, on which I think we

[Baroness McFarlane of Llandaff *Contd*]

might bring a little bit more science to bear. Obviously, big enterprises like football clubs with expensive investments must keep players on the field. There is nothing at the moment in the sports medicine area.

Chairman

508. Are there any more points you would like to make to us?

(Professor Sir Patrick Forrest) We have almost not touched on resources at all. Money is very, difficult. I think that active harm has been done in the way cuts have been made in the university and research structure.

509. In all facets?

(Professor Sir Patrick Forrest) Just generally. It has gone too far.

Lord Rea

510. If tax-payers' money is not provided then it is up to the institutions, whose funds have been reduced, to find money from elsewhere; industry now is being more profitable and should be persuaded to give more.

(Professor Bouchier) Could I answer that. There is a lot of evidence now that that policy does not work. The reason is that if you use the word "industry" you mean the medical charities. You will get plenty of hard work on heart disease and plenty of hard work on the cause of cancer, but if you try and get someone to look into, say, the ulcer, which is 10 per cent of the population, or gallstones, which is 30 per cent of the population, then no charitable trust will give you money for that. So the charitable funds are not there to provide money for the important things in medicine, they are there to provide for what is deemed important for the charitable trust. That may not be so important.

Chairman

511. It may possibly relieve other organisations from spending so much money in that field.

(Professor Bouchier) The really hard-core basic research is still going to come from the Government funded bodies.

(Professor Campbell) In the written evidence there is a fundamental point made that the public must not opt out of at least a partial share in investment in medical research. It would be tragic if reduction went any further. (Medical and dental research; to use the word "medical" as shorthand to cover the whole thing.)

512. It is the basic core research.

(Professor Sir Patrick Forrest) We have been talking so much about what is wrong, and there *is* a lot wrong in the system, but I think it is also important to stress that many things are right. The quality of the medical students and the quality of doctors is really very high.

513. On that point you mention about funding, particularly in the universities, you did some funding yourself in the Scottish Home and Health Department, did you not, with academic posts?

(Professor Sir Patrick Forrest) The Scottish Home and Health Department at the time of the Whume cuts in university funding 33 senior academic posts mostly, and some junior academic posts.

Lord Hunter of Newington

514. But that was 1981 or 1982, before the squeeze really came on.

(Professor Sir Patrick Forrest) Yes. SHHD have no intention of repeating that. Of course, the snag in the current system is that although we are not facing volume cuts, the culmulative cuts will prove no smaller than the volume cuts were.

(Professor Griffiths) The Scottish Office no longer pay for those. The costs have been passed to the individual Boards through the share system, which is the equivalent of the English RAWP. Could I perhaps suggest to you that the Health Service is in fact our major industry, and the Health Service has forgotten its commitment to research, which is in the Health Service Act, and maybe they should be putting more in directly.

Chairman] That is a point to register. We do appreciate the time you have given to come over and meet us here. We know what it means in your busy lives, and we thank you very much. It has been most helpful to us.

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HOUSE OF LORDS SESSION 1987–88

MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

at

TRENT REGIONAL HEALTH AUTHORITY, SHEFFIELD

Friday 17 July 1987

Professor J A Scott and Professor B T Williams

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FRIDAY 17 JULY 1987

Present:

Hunter of Newington, L.	McFarlane of Llandaff, B.
Kearton, L.	Nelson of Stafford, L. (Chairman)
Lockwood, B.	Rea, L.

Memorandum by the University of Sheffield Department of Community Medicine Medical Care Research Unit

DEVELOPMENT OF UNIT

The Medical Care Research Unit, funded by DHSS on a six-year rolling programme, with added contributions from Trent RHA, has been in existence since 1965. It is part of the Department of Community Medicine in the University of Sheffield Medical School. The Professor of Community Medicine is the Honorary Director of the Unit.

The first randomised, controlled clinical trial of short-stay surgery in the United Kingdom was conducted by the Unit, 1965–68. During the 1970's the major themes were agency doctoring and terminal care services, the latter being associated especially with Dr Audrey Ward. Dr Donald Forster (now Senior Lecturer in Community Medicine in the University of Newcastle upon Tyne) developed a research programme into the clinical effectiveness of physiotherapy in orthopaedic surgery, and of domiciliary physiotherapy. The multicentre study of postneonatal mortality, coordinated by the Unit's former director, Professor John Knowelden, commenced in 1977 and yielded, in 1985, the HMSO report associated with his name.

The programme grant period 1980–85 saw the origin of a randomised, controlled intervention study in speech therapy using the locally developed Sheffield Articulation test, and the commencement of a series of studies involving the clinical activities of public and private hospital sectors and the ways in which nurses move between these sectors. The Nuffield Foundation funded a descriptive study of home-care nursing schemes for the terminally ill.

The Unit moved in 1985 to a six-year rolling programme grant (£153,000 in 1986–87). Its functions are now multidisciplinary, with members of staff being drawn from the medical, statistics, sociology, psychology and health economics professions. It relates closely to the University department and its associated Sub-department of General Practice (Professor David Hannay). It also has close contact with other University departments such as Medicine, Sociology, Probability and Statistics, and Psychology, and with the staffs of Trent Regional Health Authority (headquarters two miles away) and the Sheffield Health Authority (one mile). Relationships with the Regional Health Authority's medical nursing, and Statistics divisions are particularly close. The Royal Hallamshire Hospital associated with the Medical School contains the extensive combined library of the Medical School and the School of Nursing.

The Regional Health Authority has a significant investment in the Unit, funding half the salary of the medical lecturer, and the full salaries of the Senior Registrar in Community Medicine and the lecturer in Health Economics. The two doctors participate in the health care planning activities of the Regional and local district health authorities, while the economist plays a major part in option appraisal of clinical developments.

RESEARCH THEMES AND PROJECTS

The scope of the Unit's field of study is set out in its contract with DHSS as follows:

(a) Problems of matching the ability to provide for the demand for the services for specified groups of patients, such as those suffering from renal failure or those requiring orthopaedic surgery.

(b) Variations in the delivery of orthodox NHS care, and the relationship between the public and private sectors.

(c) The activites of the paramedical professions, and the provision of non-orthodox care outside the registered health professions, for example complementary or alternative medicine, and sports medicine, etc.

(d) Questions of manpower, planning or organisation in the NHS.

As well as the funding obtained from DHSS for its programme of commissioned research the Unit has attracted funding from major grant-giving bodies like the Medical Research Council, Nuffield Provincial Hospitals Trust and the Nuffield Foundation, charities like Help the Hospices and the Foundation for the Study of Infant Deaths, and commercial organisations like AirCall Ltd.

The most prominent themes to have emerged derive from (b) and (d) above, variants of and alternatives to public sector care, and NHS manpower questions.

The Unit's current programme of funded research (and source of funding) includes:

- the relationship of the clinical activities and the movement of nurses and their skills between public and private sector hospitals. (DHSS).
- practitioners of complementary medicine, their origins and training, their patients, and the relationship of the use of complementary medicine to orthodox care. (Nuffield Provincial Hospitals Trust).
- an evaluation of the Hospital-at-Home Scheme at Peterborough. (DHSS).
- standards for hospices (including the organisation of nursing services and their relationship with other functions). (Help the Hospices).
- the use of syringe drivers in terminal care.
- medical employment outside the NHS. (DHSS).
- the epidemiology of leisure exercise-related injury and its impact upon health services. (Sports Council).
- the career pathways of female psychiatrists. (Royal College of Psychiatrists).
- the aetiology of the sudden infant death syndrome—further analysis of the DHSS study's data-set. (Foundation for the Study of Infant Deaths).
- the nature and causes of the changing demand for Accident and Emergency services. (DHSS).
- domiciliary oxygen services in the management of chronic obstructive lung disease. (DHSS).
- patient response to treatment by deputising services.

The Unit is currently being commissioned by the DHSS to evaluate the use of lithotripsy in the treatment of gallstones, a lithotripter having recently been installed in the Royal Hallamshire Hospital.

Memorandum by Trent Regional Health Authority

1. INTRODUCTION

The Trent Regional Health Authority supports two broadly based programmes of research the contents of which appear to come within the categories outlined in the terms of reference of Sub-Committee II—Medical Research. The larger of the two programmes is mainly concerned with clinical and scientific matters and is administered by a Locally (that is Regionally) Organised Research Committee. The second programme consists of projects specifically commissioned by the Authority in aid of its planning and management functions and is best described as operational research. These are described in more detail in the following paragraphs.

2. NHS LOCALLY ORGANISED RESEARCH

2.1 A regional-tier NHS-research-funding scheme has been in existence since 1958. Known as the Locally Organised Research Scheme, it was financed centrally and administered regionally until 1978 when funding was devolved to Regional Health Authorities in England. The Welsh Office and the Scottish Home and Health Department finance and manage comparable schemes.

2.2 The scope of the original scheme was ill-defined.[1] It was reviewed by a joint working party of the DHSS, Welsh Office and Medical Research Council, which reported in 1974[2] which found that the scheme was used mainly by doctors in the hospital service to prosecute clinical research. The working party considered that it should support a wide range of research, in the community as well as in hospital, and recommended that it should be better publicised among the health professions in all parts of the service, and that each regional health authority should be advised by a widely representative research committee that met regularly. It defined its intent as "*to foster the research spirit in medicine*" and "*to facilitate the discovery and encouragement of local talent*", and considered the research should be related to health service practice.

2.3 The Department of Health accepted these recommendations and embodied them in a code of practice published with a health services circular[3] (copy attached, Annexe "A"). The code of practice stressed that the schemes should aim at "providing opportunities for the *individual* for studies relevant to his day to day practice and interests. . . as part of his training in his speciality, or to enable him to develop experience and reputation in research in his career interests—rather than the provision of facilities for the commissioning of research specified by the authorities in aid of their planning and management functions''. It was appreciated that postgraduate training schedules may provide for whole-time research, but it was anticipated that the normal method of funding such endeavours would be through the fellowship schemes of the Research Councils. In view of the reduction in Research Council funds now available, the ensuing pressure on such locally organised research schemes is understandable.

2.4 Neither before nor after the introduction of the 1975 code of practice was the research funded by these schemes required to reflect health service priorities at national nor regional level; nor were regional health authorities asked to assess whether their schemes had provided value for money.

2.5 Until 1978, DHSS received a list of projects supported and money spent by the schemes in each region. Subsequently the requirement was dropped, but the Department does receive a copy of each Regional Health Authority's annual report of its scheme, though not in any prescribed form. It cannot easily obtain an overview of how the funds are being spent therefore.

2.6 In 1975–76 DHSS spent £1.86 million (8 per cent of its entire research budget) on the locally organised research scheme.[4] The total amount currently spent by the combined Regional Health Authorities on their schemes is not known but must, by now be of the order of £10 million. Trent Regional Health Authority's expenditure rose from £55,191 in 1976–77 to £419,652 in 1985–86. In 1981, from an enquiry to the finance officers of the other Regional Health Authorities, Trent Regional Health Authority noted that the proportion of a region's allocation which was devoted to its locally organised research scheme averaged 0.05 per cent, and the Authority applied this as a target for its own scheme. The resulting growth in expenditure is shown in Annexe ''C''. It is worth noting that the three teaching District Health Authorities in the Trent Region provide additional financial support for clinical research from their locally administered Trust Funds but the amounts disbursed are not yet the subject of regular annual report to the Regional Authority.

2.7 Some of the growth in demand reflects the expanding research activity of the two new medical schools (Nottingham and Leicester) established in the past 12 years. Historically, the highest demand for support from these Regional schemes has come from the hospital medical staff in teaching health authority districts,[5] and this pattern has persisted (Annexe ''D''). It is the academic departments of the medical schools whose levels of demand have increased most and this is reflected in the sophistication of the topics submitted for research. Topics involving cellular or molecular research are increasingly prevalent and in some instances applicants have already applied to national grant-giving bodies without success. Some of these adjudged by Trent Regional Health Authority's research committee to be, in character or in financial magnitude, more suited to national grant-giving bodies are referred back to the applicants with this recommendation. In 1983–84 six applications were dealt with in this way, in 1984–85 five, but none in 1985–86. The strong, overall impression gained however is of a diversion of some of the demand previously made on national funding bodies to the Regional scheme.

2.8 The domination of the scheme by academic departments should not necessarily be deplored. Many of those employed as research staff and of those involved in their department's research at junior grades go on to fill substantive NHS posts, taking enhanced critical faculties with them.

2.9 No information is systematically available about how, if at all, Regional Health Authorities assess the return on their investment in these research schemes. At the simplest level, the research committee might determine, as is the case in the Trent Region, whether a project achieved its objective within the resources requested and whether reports of the research passed successfully through peer review into the scientific literature. It is unlikely that a broader view is taken of the research's impact on the public health and welfare or upon the process or health care delivery. This, however, reflects the absence of any priority for investment which characterises the schemes other than the merit of the applications.

2.10 Another problem with the conduct of the schemes is that there is no guarantee that a particular topic is not being researched in several Regions at the same time with funding from the respective Regional Health Authorities. This may represent useful replication, assuming comparable methodology, but may on the other hand imply unnecessary duplication. This reflects the spirit of regional autonomy which characterises the schemes. Some Regional Health Authorities use the services of referees, usually of national standing in the subject of the research proposal, and who work outside the Region concerned. This goes some way towards reducing the risk of inappropriate duplication. It would help, however, if some simple facts about projects agreed for funding by Regional Health Authorities were to be registered centrally, with an updated print-out of research in progress being made available to regional research committees at their adjudication meetings. These facts might include the research objectives, the estimated time to completion and costs and the contact person. The scope of such an information system could be widened, if desirable, to include projects approved by national grant-giving bodies.

2.11 The view of the Trent Regional Health Authority is that continuation of the locally organised research scheme is desirable in that it stimulates and maintains a spirit of scientific enquiry among professionals who undertake day-to-day patient care. The favourable impact of the scheme on staff morale is disproportionately great in comparison to the relatively small level of investment. There seems to be no case for radically altering its aims or availability. There may, however, be good reason to apply its resources with greater discrimination and to evaluate its achievements more stringently.

2.12 Success in obtaining funding from national bodies is usually measured by the ability to continue to be able to attract further funding. Such a criterion is not used in the Trent Regional Scheme on the basis that after perhaps two grants, each for three years, the grantee should now be able to attract national support. This view may soon not be tenable because of the reduction of the public purse for research through the Research Councils.

3. Operational Research in Aid of Planning and Management

3.1 By contrast with the Locally Organised Research Scheme, there has been no national guidance to Health Authorities about the prosecution and funding of research in aid of planning and management although passing reference is made to it in paragraph 5 of the 1975 DHSS circular. Each Authority is therefore free to determine what investigations it wishes to pursue using its own resources. There is no central reporting mechanism for such work and the results of most commissioned operational research are not the subject of general publication and consequently wider peer group review. In fact an evaluation of the quality and utility of such work is usually undertaken locally in the light of the objectives set when the investigation was commissioned. The risks of duplication of effort and unnecessary expenditure are obvious but the actual scale on which this might be occurring can only be a matter for conjecture at the present time.

3.2 In 1980 the Trent Regional Health Authority established a scheme to provide support for research projects which did not qualify for a grant under the terms of the Locally Organised Research Scheme. It was persuaded to do so because it was receiving an increasing number of proposals for what would nowadays be termed health services research, that is to say, matters concerned with the organisation, planning and delivery of medical services. However the terms of this initiative permitted grant applications for projects concerned with any aspect of the Authority's responsibilities. The scheme was open to anyone working within the Region wishing to apply for a grant to undertake an investigation the results of which afforded the prospect of some general, as opposed to solely local, benefit to the Service. The initial funding level was set at £30,000 per annum but in practice this level of expenditure was not achieved while the scheme was in operation.

3.3 The introduction of the general management process in the Region brought with it the demand for a substantial improvement in the factual basis for decision making. This demand created the need to undertake specially commissioned studies of particular problems of both a medical and non-medical nature. In order to facilitate these investigations a sum of up to £200,000 per annum, upon which the Chief Officers of the Authority can call, has been available since 1985–86. The work commissioned may be undertaken by a variety of agencies, for example, University and Polytechnic departments, commercially based management accountants, research workers employed by the Region's Health Authorities and so on.

3.4 Examples of some of the work in progress or recently undertaken using these Regional funds include:

1. A study of the prevalance of angina in Nottingham as a basis for determining the likely demand for coronary artery by-pass surgery;
2. A study of the prevalance of diabetic retinopathy in Melton Mowbray;
3. An analysis of the cost of cardiac surgical operations in the Region's two units in Leicester and Sheffield
4. Assessments of the needs of the sensorily impaired;
5. The demand for intensive neonatal care;
6. A public opinion survey of the case for the fluoridation of drinking water;
7. A review of purchasing arrangements;
8. A review of services for the mentally handicapped in Sheffield.

4. Responses to the Sub-Committee's Specific Questions

4.1 The foregoing paragraphs make clear that in relation to the Regionally Organised Research Scheme the Region is not called upon to set priorities on anything other than the merit of the applications which it receives. Nevertheless the work undertaken covers a wide field of problems currently at the forefront of medical practice. In matters pertaining to the planning and management of health services the Authority applies funds to resolve problems of both an immediate nature and those foreshadowed within the next decade.

4.2 The balance between the different branches of research might not be right. There is, for example, singularly little research in the area of primary medical care and again in the field of health promotion. The importance of stimulating academic initiatives in both these branches is an obvious need. Reference is made in earlier paragraphs to the knock on effect being felt at Regional level as a result of the reduction in central allocations to the Research Councils. However, it should be noted that scope, scale and purpose of the Central and Regional programmes is fundamentally different and it is our view that both are worthy of support. The Authority is not able to comment on potential areas for cut-back in centrally supported research programmes. There is no doubt however that much work worthy of central support remains unfunded and this Region cannot meet the shortfall being experienced by its constituents. Three areas of particular concern to the Region at present are:

1. DNA Technology in Clinical Practice.
2. Transplantation Immunology and the need to develop human monoclonal antibodies.
3. The prevention of osteoporosis in the elderly.

4.3 Changing incidences of disease, demographic changes and new technologies are all reflected in the demand for research grants received by the Region.

4.4 The fact that the funds of many of the larger medical research charities are tied to specific objectives is not entirely unwelcome. If this was not the case it is possible to predict that research into diseases which cause widespread suffering but are not lethal might be severely constrained; arthritis would seem to be a good example. It can also be argued that while some conditions attract considerable public sympathy the fact that they do relieves the pressure on government provided funds.

4.5 The results of research are widely disseminated as can be seen from the extensive medical press. The real problem is ensuring that use is made of the new information as it is made available.

4.6 There is probably some duplication of research effort. Earlier in the paper suggestions are made for the compilation of computer based inventory of current work being undertaken at the behest of the NHS Authorities.

4.7 The problem of implementing the fruits of research are referred to in 4.5 above. Essentially the problem is one of on-going education for which, in medicine at any rate, a framework exists in Regional Postgraduate Medical Education Committees. However, participation in such activities is voluntary and some practitioners display little sustained interest. Further encouragement needs to be given to matters pertaining to medical audit and peer review.

4.8 Key areas for training in medical research are medical statistics, epidemiology and health services research. These are reflected in the current priorities of the Medical Research Council.

4.9 Reference is made earlier to anxiety about the level of funding available for medical research especially that appropriate to the Research Councils. On a more parochial basis there is no doubt that this Region could support a substantial increase in high quality research if additional funds were made available. Reference has already been made to the difficulty of ensuring that research findings which have an important bearing on clinical practice are taken up and applied vigorously. The need for a more aggressive programme of continuing education is strongly advocated.

Examination of witnesses

Professor J A Scott, Regional Medical Officer, Trent Regional Health Authority and Professor B T Williams, Department of Community Medicine, University of Sheffield, called in and examined.

Chairman

515. Professor, may I first of all say we very much welcome the opportunity of coming and visiting you during the course of this enquiry and we very much appreciate the arrangements you have made for us to meet here and to have the opportunity of talking with you initially and then others associated with the work of the Region. We have had your paper, for which I thank you. It is most helpful. We have read that, and I think I might start by asking if you would like to add to what you say in the paper in introducing to us the work of the Region?

(Professor Scott) Thank you, my Lord. We are very glad to have you here and we will do anything

[Chairman *Contd*]

we can to facilitate your comfort and needs during the day.

516. Are all meetings in here?

(Professor Scott) Everyone will come here, and Sir Michael Carlisle, the Chairman, will join you for lunch together with Brian Edwards, who is the Regional General Manager. I thought it might be helpful to provide a little more background to the Region, so I have taken the liberty of putting one or two papers around the room which you could look at at your leisure. They do not deal specifically with medical research, but they describe some of the characteristics of the Region, including the funding of the Region and the extent to which we have profited from the operation of the so-called "RAWP" policy, the Resource Allocation Working Party policy, which is now operated by the Department and which has been going, I think, in some form or another since about 1971. That has undoubtedly proved helpful. Perhaps if I say a word about the Region itself: it is a fairly large Region in geographical terms and comprises the former Metropolitan County of South Yorkshire with the City of Sheffield and the towns of Doncaster and Barnsley, and then the shire counties of Derbyshire, Nottinghamshire, Lincolnshire and Leicestershire, and the total population is just over 4.5 million, so we are not much smaller in fact than in Scotland, although in terms of Health Service's resources, we are not nearly as well-off. The Region is unusual in that it has three university medical schools: the long-established one here in Sheffield, which has been here for 150 years or more, and new medical schools in Nottingham and Leicester.

517. How new are those?

(Professor Scott) The Nottingham Medical School took its first students in 1970 and Leicester in 1975, and together these three medical schools have an annual intake of about 450 students. (It might be a little less.) Sheffield is the largest, with about 150, and in addition to that we have a small School of Dentistry here in Sheffield with an annual intake of 45 students, so there is a very substantial body of medical teaching and its associated medical research. Since we have put together the short report that I wrote for you, of course, it has occurred to me that there are various elements that might have been included had a little more time been available for thought. Knowing that Baroness McFarlane was going to be with you, I thought that she would reprove me if I did not mention the Nursing Studies Unit in the University of Nottingham, which has been in existence for a number of years now and which does indeed attract funding of getting on for £100,000 per year from the Regional Health Authority, although it is part of the medical school itself, in fact directed by a nurse, Dr Pamela Hawthorne.

518. What stage of training is that?

(Professor Scott) This is for post-registration nurses to engage in various pieces of research.

519. It is essentially research-orientated?

(Professor Scott) Yes. I think it was created really to engender a research spirit in the nursing profession.

520. Is that just for the Region or do you take in candidates from outside?

(Professor Scott) No. I think they come from all over. Many of them of course acquire a higher degree from the University of Nottingham or something of that nature.

Baroness Lockwood

521. In nursing?

(Professor Scott) In nursing, yes.

Lord Hunter of Newington

522. The point is, is it, that from the beginning of the Nottingham medical development the nursing and degrees in nursing, graduate training in nursing was part of the picture?

(Professor Scott) No, no. I think the Board of Medical Studies thought it had quite sufficient work to do to get a new medical school off the ground, although there always was a thought that it might be followed by a degree course in nursing. I have to say however that we were very disappointed in the overtures we made to the General Nursing Council, the old General Nursing Council, many years ago, where there was no national support for the establishment of a university school of nursing. We were advised at that time to develop a reputation for post-registration research in nursing, which it was thought might create the sort of climate that would lead to the establishment of a degree course in nursing. There have, however, been no further overtures in that direction in recent times, and I am sure the Baroness will be able to explain the reasons to you far more satisfactorily than I can. In addition to that nursing development, which I think is important and adds a substantial figure to our research costs, we did mention in the paper that we were conducting an enquiry into the extent to which the trust funds of health authorities were applied to medical research within the Region, and that has been completed and hot off the press you have in front of you a table which shows the extent of the funds available from health authorities within this Region.

Chairman

523. Are these hypothecated to you are are they national trust funds?

(Professor Scott) They are under the control of the individual district health authorities.

Lord Hunter of Newington

524. They are the old voluntary hospital endowments, are they?

(Professor Scott) Yes, in part, but substantially augmented in recent times, I have to say, by endeavours in Nottingham and Leicester to attract endowment funds to support the new medical

[Lord Hunter of Newington *Contd*]

schools, and you will see in fact that in the most recent figures available some £800,000 of that trust fund income was in fact devoted to medical research, and if you add that to the £420,000 or so that the Regional Health Authority makes available from Exchequer funds, then our total expenditure is over £1 million, although even that only amounts to 0.15 per cent of our total Exchequer income for the Region, and that really, although it is a substantial sum of money, is considerably less than, for example, South-east Thames, which must have in excess of £3 million available for research purposes.

Chairman

525. Could I be clear: are these trust funds from private sources accumulated over the years?

(Professor Scott) Yes, yes, absolutely, and constantly added to.

526. Are they specifically hypothecated for research, or are they left to the hospital?

(Professor Scott) No, some of them may be, but people leave money to hospitals for a variety of reasons.

527. And you apply them for research, basically?

(Professor Scott) Yes, the Health Authorities apply them for whatever purpose they deem appropriate.

528. This total income recorded here—that is income for research, is it?

(Professor Scott) No. There is the total income and then the table does in fact show the amount which is spent on research.

529. The third column; that is how much is spent on research?

(Professor Scott) Yes.

Lord Hunter of Newington

530. Do you want to pursue this point, Chairman, because originally an amount of money was given to the hospitals because they were voluntary hospitals.

(Professor Scott) That is right.

531. When the Health Service came in and the State took over the basic funding of the hospitals, the majority of the monies which had been left to hospitals were put to research with the exception of those where there was a very tight specific instruction. So that is really what has happened. The change of use has come about because the State is now doing the basic running of the hospitals whereas previously they depended on these voluntary contributions.

(Professor Scott) It is only fair to say that since then they have been variously substantially augmented by further bequests from members of the public.

Chairman

532. Since the formation.

(Professor Scott) Yes, a long time since 1941.

Lord Rea

533. Is the lack of funds allocated to Leicester because it was a recent foundation? We have got nothing in the columns under "Special Trustees" related to Leicestershire.

(Professor Scott) Yes, it is a relatively recent foundation. There is one other point I might just make. You did ask about the dissemination of information and it might just be worthwhile saying that in this region over the past three years we have been holding special seminars for Health Authority members and Health Service managers and clinicians to give the clinicians an opportunity to describe current research endeavour which appears to be applicable to the development of the regional Health Services. It really provides the scientists—medical and non-medical scientists—with an opportunity of a platform to describe their current work and thinking, whether that is concerned with the re-organisation of the way in which services are provided or whether it is concerned with fundamental developments of a bio-chemical nature. Shortly we are publishing the proceedings of these transactions with some help from the Nuffield Trust. That was the first one that we held, which looked at the way in which services for children were organised and, similarly, for the elderly. Also, there is a very interesting contribution on DNA technology when Howard Jefferies, the DNA fingerprint man, described his work, in advance, of course, of its appearance in the popular press, and a further contribution of transplantation. But it has gone on from there to cover many other areas of endeavour and we found that very helpful; getting the information across, interesting the members of the Health Authorities and the general managers in pursuing some of the opportunities which are now available. I think that is all I want to say.

Chairman

534. Thank you very much. Just to clarify on these endowment funds, do these go to the district hospitals?

(Professor Scott) Yes.

535. To what extent do you augment that from the region for research? Or is this the sole source of funds for research?

(Professor Scott) No, from Exchequer funds in the year ended 31 March 1986 we allocated a further £419,700 for medical research.

536. That will be spent in the district authorities?

(Professor Scott) Yes it would. It is only fair to say that most of the requests for assistance come from people working within the three teaching districts.

Lord Hunter of Newington

537. Chairman, can I ask whether these monies are dispensed in response to individual requests by physicians or surgeons working in a particular area, or whether they are dispensed, or given priorities, in relation to regional policy or the result of discussions between the region and the medical centres?

(Professor Scott) Can I ask Professor Williams to answer that. For the benefit of the members who have not heard, although Professor Williams now holds the chair he has, for years, been the Chief Executive of the Region's Committee for locally organised clinical research, so he is very knowledgeable about the source of applications for funds and their disbursement and so on.

(Professor Williams) Thank you, sir. On the particular point, the funds are disbursed according to individual requests, not within any framework policy set by the region. I will be telling you, with Professor Johnson later this morning, something more fully about the scheme. On the particular point, it is not within any policy or priority framework set by the area.

Chairman

538. Thank you for adding those points to your paper, Professor Scott. It might be appropriate also to explore a little bit further the role you see for the regions and districts in the research field, as distinct from what is done through the MRC and the UGC and so on.

(Professor Scott) I think that the conduct of research is valuable to Health Authorities for two reasons. The first, and not the least, is the fact that in order to attract and retain the high quality staff—doctors, scientists and others—it really is necessary to create the right sort of environment for them to work in. Most, if not all, of the people who come to work in the teaching districts will have had a substantial background in research and will want to pursue that, whether they are employees of the National Health Service or employees of the universities. We regard the ability to provide assistance for medical research as being very important to the interests of the Health Service in the region.

539. The expenditure within the districts and regions on research is relatively new, is it not? You showed in 1976 the expenditure was £55,000 and in 1985, nine years later, it is £419,000.

(Professor Scott) Yes. There is no doubt that with the emergence of the two medical schools the demand for funds for clinical research has grown enormous.

540. This is an important factor?

(Professor Scott) Absolutely. I know it is a fairly trivial sum of money in many ways, because the people who work in these districts, especially the academic staff, do attract fairly substantial support both from the Medical Research Council and from the Chief Scientist of the DHSS and from the medical charities, but the Regional Health Authority tends to support the smaller schemes of research which might fail to attract the interests of the national bodies. The second reason why I think research is important is, really, in connection with the development of the Health Services *per se*. I did say in our paper that we are now devoting something like £200,000 a year to research in aid of planning and management—what is probably best described as operational research—in those cases we have identified a problem which we want an answer to. So there is a prioritisation of the topics that we fund in that case.

541. This I find very interesting because by and large the evidence we have is that effective research comes from initiatives from individual researchers who want to do work and apply for grants accordingly. There is a feeling in some quarters that you do not get good research by saying "That is what we want done, please will somebody do it". On the other hand, when you come down to the regional authority, that is in many respects what you are doing. You are saying, "These are my questions. We want them researched." Do you find you get effective response to that type of approach?

(Professor Scott) Yes. There are university departments crying out for work to do.

542. They cry out for work and they will take it, but do they produce results?

(Professor Scott) Oh yes. We would not give them the money if they did not produce the results. That is for sure.

543. So they orient themselves to the sort of things which you want done?

(Professor Scott) Yes. We are fairly hard-headed in wanting value for money. Some of the work is largely of a medical nature. Some is of a non-medical nature but is fairly fundamental to the investment decisions we make, and by way of example of the last, we have recently commissioned Price Waterhouse to undertake a major study of the costs of cardiac surgery in this Region. We currently spend something like £13 million a year on the two cardiac surgical units within the Region, and this detailed study by Price Waterhouse has cost us about £100,000 but we felt we had to get the facts straight before we made further investment in those two centres, none the least because there is pressure for a third centre to be established to pursue one of the Secretary of State's priorities for development, namely coronary artery bypass surgery, and we wanted to be sure that the current spending in those two units was satisfactory and comparable and so on.

544. How do you measure that, as a matter of interest?

(Professor Scott) We have now just received the results of this detailed study and we have been looking at staff and non-staff costs and the efficiency with which those funds have been applied

[Chairman *Contd*]

in terms of length of stay in various parts of the unit, in intensive care and in the ordinary wards. The study was not designed to measure outcomes.

545. Just expenditure?

(Professor Scott) Yes. When I say outcomes, I mean in terms of the benefits actually accruing from the surgery. That is another matter, which Price Waterhouse could not have pursued because they do not have the expertise to do it, but it is also important, and I think is an area to which we would turn had we got the funds to do it. We now have a very clear idea of where the two units are spending their money and what the differences are between them, and I am happy to say that the consultants, who have been heavily involved in this study, and who essentially are anxious to treat patients and treat as many patients as they can, will have regard to the cost of their work.

546. What does the cost come out at? Have you got a figure?

(Professor Scott) Yes, I have. For example, the cost per case for coronary artery bypass surgery in Leicester is £3,638 and in Sheffield £2,900.

547. That is interesting, is it not?

(Professor Scott) It poses questions to which we have not yet got answers.

Lord Kearton

548. Do you compare this with the results from cardiac units up and down the country?

(Professor Scott) One of the reasons we commissioned Price Waterhouse to undertake this study for us was we found that the ordinary NHS accounting system is so variably applied as to make us wonder whether the information we got was comparable.

549. You would like to see Price Waterhouse go through the John Radcliffe Hospital in Oxford!

(Professor Scott) They could do. We did not ask them to do that. At £100,000 for a study of two units, you can understand our reluctance to look further afield.

Lord Hunter of Newington

550. This is a very good example of where the Regional Health Authority is coordinating the development of specialist medicine in the Region principally in the medical centres, and presumably this is accepted by the staff, and that you could be encouraging or not encouraging something which was in an academic department's interests.

(Professor Scott) Yes, certainly.

551. This is really a very important point to us. You are in fact the paymasters and you are trying to avoid duplication. Every medical centre wants to have a transplant and cardiac unit, otherwise they do not think they can hold their heads up with all the others, and this coordination seems to me to be a vitally important development.

(Professor Scott) The pressure for the third unit is of course coming from the University of Nottingham. The start-up costs of a third unit, as you will appreciate, are enormous, and so if we can do more surgery in the existing units satisfactorily, it will almost certainly be cheaper than starting a third unit. The time may well come, given the demand for coronary artery surgery, when because of the numbers involved we may simply be obliged to establish a third unit. I did mention in the paper that alongside this we had also commissioned Professor John Hampton from the University of Nottingham, who is a professor of Cardiology, to study the prevalence of angina in the Nottingham community. He has now completed that study and the results are quite horrifying in the sense that if coronary artery bypass surgery became the object of public appeal, then we simply would not be able to afford to undertake it on all the people who might potentially benefit. What we did discover from the study was that only one in five of the people in Nottingham who appeared to have drug-treated angina are in fact being referred to hospital, and of those, of course, only a fraction are being referred for coronary artery bypass surgery, and the precise numbers being referred to a specialist depends on which physician they are sent to.

Baroness Lockwood

552. How does that compare with Sheffield and Leicester?

(Professor Scott) I do not know. You may say that is a funny sort of study to undertake, but since Professor Hampton is our only Professor of Cardiology, I thought I would ask him if he could give me this basic information about the prevalance of angina, and he is knowledgeable about these matters and he said there was not a reliable study available anywhere in this Kingdom, let alone overseas. We started from scratch, but what he did was to, in conjunction with the Prescription Pricing Bureau and the Family Practitioner Committee in Nottingham, get agreement to have a copy of every single prescription for nitrates sent to his department, and then they were collated there by a research worker to identify the number of prescriptions for patients. They were then able through the medical records system of the hospital to find out how many of those patients had been referred for the opinion of hospital specialists, and then they went on to take a sample of those patients and to make contact with the family doctors to find out a bit more about the patients themselves.

Chairman

553. And that same technique would be applied to other fields.

(Professor Scott) Oh yes.

Baroness Lockwood

554. Would it influence your decision as to whether you had a third unit if you found the people in the Nottinghamshire area had been less

[Baroness Lockwood *Contd*]

well served than the people who lived within the districts where you have such a unit?

(Professor Scott) I do not think so, for this reason: that the unit in Leicester is intended to serve the people from Nottingham. I think what would influence us is if the demand for coronary bypass surgery rises. We know how many we are doing at the moment, something like 150 per million but the Secretary of State has set us a target of 300 per million by 1990 which we can ill afford. Other services are going to have to suffer as a result. If we were to rise to the level in the States, which is about 800 per million per year, you can see it would be well beyond our means. In fact, that figure for the States conceals enormous differences where the urban figures can be anything up to 2,000 bypass operations per million. I dare say that the English physicians would not be persuaded to adopt the same criteria as American physicians; different factors are at play in this game.

Lord Hunter of Newington

555. Slightly off the point but it is very vital: the Regional Health Authority having found it is developing the two units and not developing anything in Nottingham: because of prestige and standing of the Nottingham medical centre and your desire to attract the best possible staff, would you deliberately develop some other special growing finge of medicine at Nottingham?

(Professor Scott) We are, in fact, doing that.

556. You are?

(Professor Scott) Yes.

Lord Kearton

557. I get worried by these figures, if I may say so. Angina, as a layman, covers a very broad spectrum. I know people who have had angina for 20 years and they are still going strong; other people have been diagnosed and a month later they are dead, and so forth. To say that in certain areas of America it is 2,000 per million; your figure of 150 going to 300—the criterion on which this is established seems to be whistle in the air.

(Professor Scott) I did say that the same factors were not at work.

558. The factor is fashionability.

(Professor Scott) Without mitigating anything, that enters into the account, and it is the case that in the States you may be put on the treadmill and if you develop a pain in your chest (and I am sure I would) I would then become the recipient of a bypass operation. I do not really think that British physicians would regard that as being....

559. You mention, of the cases of angina—if I heard you correctly—only one in five is referred to hospital. That could be a correct decision by the GP.

(Professor Scott) It could be but we are rather doubtful that it is.

Chairman

560. Is it influenced by the location of the patient? If they live next door to the unit is there a tendency to push them straight in, whereas if they live 40 or 50 miles away they do not?

(Professor Scott) Certainly. The inverse care rule applies. The further you live from the special unit the less likely you are to receive the care. If you live in Sheffield or Leicester you will get a higher level of service when the specialist is on the doorstep. While we try to publicise the extent to which the services are used by individual districts in the region it does not necessarily make the demand from the more peripheral parts rise.

Chairman] This will be a factor in locating any new unit, of course.

Lord Kearton

561. Do you currently have a large waiting list for this operation?

(Professor Scott) Yes. I could not give you the figure offhand.

562. But there is a waiting list?

(Professor Scott) There is a very substantial waiting list.

Baroness Lockwood

563. At both units?

(Professor Scott) Yes, at both units.

Chairman

564. Could I come back to another point before I forget it. When we started on this subject you referred to the study being done by Price Waterhouse. Could you tell us why you commissioned Price Waterhouse to do the study rather than the university people?

(Professor Scott) Well, because it was largely an accounting matter and we wanted accountants to examine the costs.

565. It is an accounting matter but, on the other hand, it also relates to the knowledge of the working of the Regional Health Authority and so on. I would have thought there would have been merit in employing a deparment in the university who would possibly be less expensive and who would then accumulate increasing experience in analysing these sort of things within the region and therefore become more and more useful to you, rather than it being lost in an outside organisation.

(Professor Scott) Let me say immediately we invited tenders and the Treasury here, together with one of my medical colleagues, interviewed the various parties who expressed an interest in undertaking a study for us, so it was not just picking Price Waterhouse off the wall; they were one of a number of people who were interested in doing the work. The other thing I should say is that there was, of course, a very substantial medical input to the Price Waterhouse study. There had to be because,

[Chairman *Contd*]

apart from anything else, we had to tell Price Waterhouse which conditions we wanted to be examined in great detail. Quite apart from bypass operations we also wanted them to look at the cost of valve replacements, for the insertion of cardiac pacemakers, for angioplasties where you put the catheter in with the balloon and they blow the balloon up and burst the obstruction in the artery. So they analysed the cost in all these cases in the two centres. They also looked at the investigative costs preceding operations—whether we got a comparison in the two centres. Many aspects were greatly helped, not only by my medical colleague here but also by the physicians and surgeons in the two centres. They could not have done it without them. On top of all that they got help from our own operational research workers in connection with length of stay and the way in which we organise the collection of data and so on. So it was a collaborative study. When it came to the prevalence of angina, that is essentially a medical matter and that is why we commissioned Professor Hampton to undertake the work. May I answer Lord Hunter's question, because I certainly would not want to give the impression that we only fund one or two centres. I think the most recent development upon which we are embarking jointly in Nottingham is for the creation of an academic department of oncology, which will be a joint venture between the Cancer Research Campaign, the University of Nottingham and ourselves. It will be seen as a further arm to the development of the treatment of patients with malignant disease. Then, of the other things that are going on in Nottingham, perhaps the one which is currently of greatest note and which is fundamental, is of magnetic resonance imaging, the application of which in medicine was conceived by the university department of physics in the University of Nottingham and it was only after making certain observations that they sought to involve clinicians. They were one of, I think, two, possibly three, centres in the United Kingdom which actually applied themselves to the development of magnetic resonance imaging as a new form of non-invasive imaging of body tissues. It is not without significance that Professor Peter Mansfield, who is one of the figures primarily concerned, was recently elected a Fellow of the Royal Society for his work in this connection. The thing was funded initially, I think, by money partly from GEC, the first prototype machine, and with money from the Office of the Chief Scientist, but the DHSS has now withdrawn the funding so the Health Authority will have to pick up the expenditure tab, which is well over £100,000 a year, but of course, it has now really passed from the stage of research into commercial application, and a good number of firms throughout the world are now selling magnetic resonance imaging machines.

Lord Hunter of Newington

566. This is a good example, is it not, of how the university science departments have contributed very substantially to the work of the Health Service in the Region?

(Professor Scott) Oh, immense, yes. There is another splendid example in the University of Nottingham in the MRC unit for hearing research. It is an MRC unit. It is on the university campus as such but in fact they have got what they call an out-station in Nottingham so that the public of Nottingham do benefit from having the unit, and then in addition to that, of course, the Director, Professor Mark Haggard, contributes to the work of the medical school, so again, both the university, the medical school and the National Health Service benefit from the presence of that unit. Professor Haggard is one of the people who has contributed to this so-called "medicine and management series", because he has been able to show us how it is possible, for example, by the proper application of screening techniques to identify all severely hearing impaired children soon after birth and not when the learning process has already been established, and that really is crucial to the proper education of the severely hearing-impaired children. This Region is singularly fortunate in having three medical schools. A more recent development, in which Professor Williams is involved, is in connection with evaluation of the lithotripter, this thing that cracks stones by ultra-sonics.

Chairman

567. What is that exactly, if you could explain it to the layman?

(Professor Scott) It is a means of cracking stones using an ultra-sound technique. It has been used for some time in connection with the disintegration of kidney stones and the first machines are extremely elaborate, involving putting a patient in a tank full of water, but the latest generation of lithotripters now offer the prospect of treating these people as out-patients, without all this elaborate water bath, and the Department of Health and the Trent Regional Health Authority have brought a lithotripter for evaluation here in Sheffield.

568. Whose equipment is that? Is it British or American?

(Professor Scott) Wolffe—it is German, but we are hopeful if the trial is satisfactory that it will be possible to treat patients will gall-stones as day cases. That would be a fantastic advance on having to stay in hospital.

569. You are doing this already with kidney stones but not with gall-stones?

(Professor Scott) This particular machine is not being used for kidney stones, except that Professor Johnson, whom you are seeing later on, has I think made sure it works on kidney stones, and it does, before he turns his attention to gall-stones.

Lord Kearton

570. It is not being used on kidney stones?

(Professor Scott) No, not in this country. This is the first one in this country.

[Lord Kearton *Contd*]

571. Do you have an NMR installed in the Region, a full-size NMR?

(Professor Scott) Yes, and we contemplate the purchase of another one for Sheffield, and of course, there is another form of the magnetic resonance spectroscopy in use in the University of Leicester for chemical and biochemical research for studying metabolism tissues *in vivo*. Can I finish on the gall-stone lithotripter, because on the gall-stone lithotripter trial the equipment has been located in Professor Johnson's department here in Sheffield and you are seeing him shortly, and he is going to do the clinical work and Professor Williams is going to do the evaluative work, and again, the funding of this trial will be partly with funds from the Regional Health Authority, from this operational research budget I have been talking to you about, and partly with funds from the Office of the Chief Scientist at the DHSS, so it will be another jointly funded project, both in terms of capital cost and research costs.

Chairman

572. You mention in your paper on the top of page three that "There is no guarantee a particular topic is not being researched in several Regions at the same time." This seems to be rather important. If the right way to go was for more research to be done in Regions, for example, short-term research, it will become increasingly important to take care of this particular weakness, will it not?

(Professor Scott) I think it could be taken care of fairly easily. I would ask Professor Williams, because I think that bit of the papers was written by him.

(Professor Williams) That applies particularly to the Regional research schemes, which I would like to come back to later, but on a topic as large as the evaluation of lithotripsy, there is very unlikely to be duplication.

573. If you are the one who has the machine.

(Professor Williams) It depends on whether one has the machine.

(Professor Scott) They cost three quarters of a million pounds, so they are not likely to be dotted around the country in the immediate future!

Baroness Lockwood

574. But presumably you are looking at the medical successes of the scheme and also comparative financial involvement.

(Professor Scott) Absolutely, yes.

575. And as a result of that, it then could be copied, the operation of it could be copied, in a Region.

(Professor Scott) Yes.

576. Would that depend on your disseminating the results of your experiment?

(Professor Scott) Yes. I think Professor Johnson and Professor Williams hope to have the first results in something like a year and the final results within two years of that trial, so it will be done fairly speedily. If it works, it is very important, because gall-stones are very, very much more common than kidney stones, and the amount of money which is expended on the in-patient treatment of people with gall-stones is enormous. You will not replace the need for surgery altogether—we know that—because in order for the technique to function, the patient will have to have a functioning gall bladder; if they have not got a functioning gall bladder the stones are going to recur and they will need to be treated again. Part of the study is to determine whether the patient has a functioning gall bladder.

Lord Rea

577. Was this decision to go ahead with this expensive piece of technical equipment taken by application by Trent to the DHSS? Did you have to get agreement from up there before you took on this trial? It is fairly substantial, is it not?

(Professor Scott) The approach came from the Department of Health.

578. They thought this was an appropriate Region to do it.

(Professor Scott) Yes.

Chairman

579. It came from the Department of Health rather than the MRC?

(Professor Scott) It came from the Department of Health, yes. They asked if this could be on the table in Trent. It was a question of adding which of the centres was best placed to do the work.

Lord Hunter of Newington

580. We have not yet seen the Department but was that approach from the equipment division of the Department, or from who?

(Professor Scott) I am trying to think of the correct name of the department. It is that department which is concerned with all the new medical technology.

Lord Rea

581. Did they actually advance the capital?

(Professor Scott) They paid for half. They came to me and said "Look, we will provide half, can the Regional Health Authority provide the other half?"

(Professor Williams) They also had an investment, of course, of £150,000 a year in the medical care research unit in Sheffield.

Lord Hunter of Newington

582. Did they help you with finance in relation to the implementation of the Forest Report—the Department?

(Professor Scott) Yes.

583. To what extent? How many centres can you have?

(Professor Scott) So far the Department of

[Lord Hunter of Newington *Contd*]

Health has provided funds for the establishment of what I will call one Forest unit.

584. That is what I thought.

(Professor Scott) That is a population of 471,000 and that will enable us—and it will start later this year—to establish a centre in Nottingham which will serve Bassetlaw, which is the name applied to Worksop in the district of North Nottinghamshire. We are hopeful that the Department of Health will make further grants in the next two years to enable the breast cancer screening to be extended throughout the region. If they do not provide the funds then we shall be in serious difficulty inasmuch as our short-term plans will be compromised, as it is not without expense. We need the equivalent of, I think, five Forest units and that will cost over £1 million on the revenue side and three quarters of a million of the capital side. It is a substantial sum of money. The Secretary of State is anxious, of course, that the service should be available region-wide by March 1991. Quite apart from that, Nottingham (and this is the University of Nottingham and the NHS staff) will be providing one of the four centres for training personnel from a quarter of the region in the techniques of screening for breast cancer. Again, it is not without significance that one of the contributions they had to this series on Medicine in Management was by Professor Blamey of the University of Nottingham, who is one of the international experts on breast cancer. The idea of getting it going emerged from a seminar and we were going to put money into a centre for Nottingham but I was implored to seek the advice of the Forest Committee before I did so. That sort of held us up but, having said that, we got such a good proposal that I am sure that persuaded people in London that Professor Blamey and his colleagues were well-placed to provide one of the initial services and to take on training.

Lord Kearton

585. I see that one of the headings is "Services for the Elderly". When I look at your statistics 40 per cent of your beds are occupied by the elderly, and most of those will be long-stay patients. To what extent do you determine your priorities towards reducing the stay in hospital of the long service stroke cases and things of this kind? In other words, NMR and MR are very glamorous, lithotripsy is quite glamorous, yet the sort of major hospital costs now are amongst the elderly patients.

(Professor Scott) Yes, I sometimes think these statistics are misleading because you might get the impression that the money going into the acute service is simply for the treatment of people who are not elderly, whereas—I am sure you are well aware—the fact is 60 per cent of the patients going through the acute medical beds are, indeed, over the age of 65. When you talk about the long stay, of course, that is a different matter; they do not tend to treat the long stay in the acute beds, but with a more aggressive therapeutic regime there is no doubt that the length of stay for the elderly is being reduced as more progressive policies are developed. We do have an important academic development in Nottingham, headed by Professor Tom Airie who is a Professor in health care of the elderly. In fact, the Regional Health Authority pays for his salary and he is a psychiatrist but he works alongside a geriatrician to provide a focus for the development of services for the elderly. He is a very important teaching resource, who is known far and wide and not only in this country.

Lord Hunter of Newington

586. It is not called geriatrics any more?

(Professor Scott) Health care of the elderly.

587. It is quite an important point, the attitude of the people towards the care of elderly people.

(Professor Scott) It is a fact that approximately one-fifth of the population over 80 show signs of dementing and they do need a lot of psychiatric help. Who knows, it may be that dementia will be one of those areas which will see important innovations in treatment in the course of the next decade. There is some evidence that dementia may be influenced by the internal milieu of the brain.

Lord Kearton

588. It is interesting and, in a sense, a great tribute to the Health Service that half your people who die in this region are over 75. In other words, you do pretty well; 28,000 out of 54,000 deaths are over 75. As you go along with your Lithotripter, your NMRs, and heart bypass operations there are even more going to get over 75!

(Professor Scott) That is quite possible. The out-patient lithotripter is going to be a godsend to the treatment of the elderly. If you can apply this technique without needing to give them a general anaesthetic and then chop them open elderly people with gall-stones will be amenable to a much less hazardous form of treatment. Similarly with magnetic resonance imaging. It will make it possible to decide whether or not intervention is worthwhile. If there is a solitary lesion inside the brain then it might well be worthwhile doing something. Other things are on the horizon. We have, in Sheffield, the only unit in the Kingdom for what is called stereotactic radio surgery, which is a device which enables the scientist to focus radiation with great accuracy on lesions within the skull. Although it was thought that this would be much used for solitary tumours within the brain in fact one of its greatest applications appears to be with vascular malformations. By shining rays on the vascular malformation it is possible to cause obliteration of the bleeding vessels or the vessel which might bleed. That has only been in operation for a year, and again, that is a DHSS funded project which arose by accident because we simply happened to have a new consultant who had trained with somebody in Sweden.

Chairman

589. And you applied for support?

(Professor Scott) Yes. He persuaded his colleagues in the British Association of Neurosurgeons that if he could get the money, they would send the patients.

590. I would like to come back, if I may, to a question I asked earlier on, because I have not got a very clear picture of the answer, and that is how are you going to know what is being done in other Regions and how are they going to know what you are doing? I do not mean dissemination of results, reports. I think that is probably very well-covered, but a report is not circulated until, say, many months or years after the work and you do not want to find somebody else has been doing the same work over the same period of time, and you refer to that there. If there is going to be more research done in the Region—and it may be a very good thing that it should—that has got to be taken care of in some form or other.

(Professor Scott) Professor Williams can give his own answer, but I think that we probably would be more concerned with larger investments in research that in the smaller investments in research. You have to remember what the purpose of the locally organised clinical research scheme was, which was to foster the research spirit.

591. The large research would probably be done through the central bodies anyway.

(Professor Scott) It is, yes.

592. So it would be coordinated there or known there, would it?

(Professor Scott) Yes.

593. So maybe it is not as serious as you make out in your report then, is it?

(Professor Williams) The report, I think, does concentrate on the small-scale locally organised research scheme. That is where there is endless scope for duplication, and nobody knows what is going on.

(Professor Scott) It seems to us it would be really very simple to produce a computerised inventory of the sort of work being done. I do not know how great the risk is, because quite apart form disseminating reports, experts gather in groups; they go to meetings and they read the journals, so they have a fair idea of work that is going on within a field, so I do not know how serious a problem it is, and I am not sure even if there is a lot of over-lap for the amount of money which is expended, £10 million.

Lord Kearton] Small-scale over-lap is a very good thing really, because you want to get the research atmosphere spread.

Baroness Lockwood

594. I think you said earlier that you tended to do what has not been done nationally through your Regional research. Do you find that at national level there are large gaps in what you would regard as priorities?

(Professor Scott) I think the most obvious gap that exists really is in measuring outcomes in clinical terms. It is by and large left to doctors and I suppose it has got to be.

Chairman

595. Measuring outcome or stimulating application?

(Professor Scott) Outcome is the benefits that accrue to the patient. I think it probably has to be largely, but I think that health authorities do need to know a good deal more about what their money is being used for and what benefit it achieves. I am reminded of Florence Nightingale's notes on hospitals, where she made this point well over a hundred years ago, that if hospitals would collect information, then amongst others the trustees would know how their money was being expended and whether it was being wisely spent or wasted, and I think that we should not forget that, because we have major problems: if I give you just one example, in connection with the treatment of end-stage renal failure, this Region has achieved a very enviable position. We are probably now treating more new patients in the population than any other Region in the country, and I think it is open to question whether we have gone further than we should have done, inasmuch as we have reduced the criteria for admission for treatment to a level which means that we accept really very poor-risk patients, whose expectations are not good, to put it mildly (and I am not very happy to see this in print). Was it not for the fact that some fifty per cent of these patients perished within a very short period of time, we would be bankrupt. The problem is, of course, that there is a learning code, and the survival of even poor-risk patients is improving all the while. When we first launched continuous ambulatory peritoneal dialysis the mortality rates in the older patients for whom this was thought to be suitable were 30 to 40 per cent. Well, over a matter of a year or two the mortality rates really dropped right back, and it was technique that was faulty; once we had mastered the technique the prospects were greatly improved, but we need to know about the outcomes in the various populations that are receiving this treatment to see really whether we are justified in making this investment, when there are so many other areas where investment is required. We treat people with renal failure at the expense of people who could do with coronary artery bypass operations. Similarly, we are treating these patients at the cost of old ladies who would benefit from new hip joints, and so on.

Lord Kearton

596. Are you in sympathy with the work at York then? You must be, from what you say. This position of health economics, in which they are trying to give values from which they produce tables is very subjective. What do you think of it?

(Professor Scott) Professor Olman-Smith wrote

[Lord Kearton *Contd*]

an article in "The Lancet" recently on "Qualms about Palys" and I still review Qalys with some suspicion. Having mentioned the University of York and having had a brief conversation with Professor Holland, it is really quite important that you should know that the three northern Regions, that is, Trent, Yorkshire and Northern, have in fact put up the money to establish a York Health Economic Consortium headed by Dr Ron Akehurst, £150,000. That is a sort of guarantee.

Chairman

597. That is springing from your own initiative?

(Professor Scott) No, I think the request came from York. We agreed to put up the money and health authorities throughout these three Regions commission work, for which they pay, and if York can attract that work and the money, we do not have to meet the underwriting, as it were. That is quite an important development, and of course, the University of York has an exceedingly high reputation for work in the health economics field.

598. That is very interesting. Could I bring in another point here? To what extent has the RAWP programme helped you in the Region? Has that improved the position as far as you are concerned?

(Professor Scott) Yes, certainly.

599. The programme is achieving its objectives?

(Professor Scott) Slowly but surely, and I think you will see that in 1977 the Trent Region was funded at something like 87 per cent whereas the highest funded Region was something like 117 per cent, a gap of 30 per cent in the appropriate funding levels. That gap had narrowed in 1985–86 to 95 per cent in Trent and 110 per cent—a gap of 15 per cent. So the gap between the worst and the best has been cut in two. Obviously, because this region has provided a proportion of its income for research (I think, roughly speaking, 0.055 per cent of its total income) our income has risen and so has the expenditure on clinical research. So it has been of benefit there, too. There is still a large gap to be made up to reach our national RAWP target.

Baroness Lockwood

600. It is widening again. It appears to be widening.

(Professor Scott) Yes.

Lord Hunter of Newington

601. That is the last decision of the Government generally to widen it.

(Professor Scott) There is a later year, I think, with 96 per cent of national target. RAWP has been called into question but my understanding is the assurances which have been given to this Authority personally by the Secretary of State to our Chairman is that RAWP will continue although it will be improved here and there.

Chairman

602. In establishing clinical research units what is the role between the District Authority and the Regional Health Authority? Does the initiative come from the Districts or from the Regions, or where?

(Professor Scott) Sometimes.

603. Both ways?

(Professor Scott) Yes. I think there are four parties involved, by and large, sometimes even more, inasmuch as one of the national charities may be involved, the Arthritis or Rheumatism Research Council.

604. You have in the Region a Research Committee, do you?

(Professor Scott) Yes.

605. The Districts do not, do they?

(Professor Scott) No.

606. But they sit on your Committee?

(Professor Scott) No, they do not. There are experts who are working in the Districts in the universities.

607. The specialists would sit on the Regional Committee?

(Professor Scott) We have at least one lay person, who is the District General Manager, who is there as much as anything to look at ethical aspects as to concern themselves with research aspects.

608. This works satisfactorily, as you see it?

(Professor Scott) It appears to.

(Professor Williams) Would you allow me a comment, sir, on the capacity to reach the parts that Price Waterhouse cannot reach? That is the initiative which is presently in this Region between central Government's Health Department and the Region in jointly funding this multi-disciplinary research unit. This has been going since 1965 and it is one of a number of such research units which deal with the questions of the aspects of delivery of health care, status and so on (Professor Holland has a similar unit in St Thomas's). Some of these units are in free-standing institutions, some are in free-standing medical schools and some are in multi-disciplinary universities. All have different capacities and all develop particular themes. Professor Holland's is well-known to us for resource allocation questions, disability research and so on. Professor Scott's predecessor and my own, with the Department, back in 1965, invested jointly some money into Sheffield University to help develop a medical care research unit, multi-disciplinary. This has been there ever since. It is funded in the ratio of 3:1 by the Department and the Regional Health Authority. Being multi-disciplinary (medical, social sciences, economics and so on) it can tackle more aspects of an issue than, say, a Price Waterhouse approach. So that, simply, the evaluation of lithotripsy brings into question the marginal benefits, marginal costs,

[Chairman *Contd*]

the opportunity costs and measurement of health status and patient benefit, and so on. It is that sort of issue. What is it like to be managed, as it were, both by the central Government Health Department and the Regional Health Authority? The Government Department, as it were, cerebrates rather slowly; it takes a long time to develop its priorities and commission its research. Therefore, it tends to concentrate on long-term questions. Things that have come our way—we have developed a theme in relation to public/private sector questions on health care. The Regional Health Authority has more intermediate goals, so you have to keep a fast running stream as well. So there is the opportunity both of developing long-term research and intermediate-term research. Because you have a multi-disciplinary unit it gives rise to problems of career development for the people involved—situations of tenure, and so on. If you are in a university your disciplines can relate to the other departments in the university which give them support and gives them outlets. This particular unit we have in Sheffield is on a six-year rolling programme and some of its members have a takeover commitment from the Regional Health Authority should the unit ever fold. That is very helpful and a supportive way of doing it. There is no conflict between what the Region wants you to do and what the Government department wants you to do, because the Trent region has, after all, a 5 million population, it is a microcosm of the nation, so what is important to the Trent region tends to be important nationally and vice versa. So questions of public/private sector interface are important, just as, for example, questions of "Should we have home care terminal nursing schemes or place them in hospices?" Trent has the opportunity to research that question, but it is a national issue as well. So it does have that flexibility and a stop on funds at central level, which is happening at the moment, can to some extent be bailed out by the flexibility of Regional funds, and we are in the particularly advantageous situation, as you just pointed out, of being a RAWP gaining Region, so there are advantages of a joint approach between a government health department and a regional health department.

609. I should have thought there were considerable advantages, and not least because you are closer to the problem.

(Professor Scott) You are closer to the problem, and being based in a university and in a medical school, you can form your networks with the clinicians. (Professor Johnson is coming in shortly to see you, the Professor of Surgery in Sheffield.) You build up a situation of trust with clinicians and therefore when the opportunity for collaborative research like this comes along, they do not turn the opportunity down.

Baroness McFarlane of Llandaff

610. Chairman, could I go back to the career prospects of the multidisciplinary team? It seems that many disciplines are required in health services research. To what extent can they return to their own departments, the psychologist or economist who comes out? Do they suffer in career terms when they try to return?

(Professor Williams) The best ones do not. We have a pretty talented health economist at the moment, who is in the process of being snapped up by McMaster University in Canada. It depends what you make of your opportunity. The best will get resynthesized, reabsorbed.

(Professor Scott) It is a fact that we have taken steps with that young man to ensure that he has got a seat at the table in the Sheffield University Department of Economics, so that he does not become professionally beleaguered, but he is of such quality that I do not think he would become beleaguered, even if he was employed in isolation.

Lord Rea

611. But you say you are losing him.

(Professor Scott) Yes, like all the best men.

Chairman

612. We have gone on for quite a long time, I think. I think we have already overstepped our programme by a quarter of an hour, so I think perhaps we ought to draw this session to a close. We shall be joining you for lunch, shall we not?

(Professor Scott) Yes.

613. So we could pursue some of the other points there, could we not?

(Professor Scott) Yes, say the things that will not be taken down in writing!

614. So we draw the session to a close there and thank you very much for the information and the way you have answered our questions, and we look forward to pursuing them further at lunch.

(Professor Scott) Thank you very much for the opportunity to meet you and explain in a little more detail what is going on within the Region.

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HOUSE OF LORDS SESSION 1987–88

MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

at

TRENT REGIONAL HEALTH AUTHORITY, SHEFFIELD

Friday 17 July 1987

Professor A G Johnson and Professor B T Williams

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FRIDAY 17 JULY 1987

Present:

Hunter of Newington, L.	McFarlane of Llandaff, B.
Kearton, L.	Nelson of Stafford, L. (Chairman)
Lockwood, B.	Rea, L.

Examination of witnesses

Professor A G Johnson, Professor of Surgery, University of Sheffield and member of Regional Research Committee and Professor B T Williams, Department of Community Medicine, University of Sheffield, called in and examined.

Chairman

615. Professor, may I thank you very much for coming along and joining us. I am sorry we are running a little late. It gives us an opportunity to get an insight on how things happen in an important region (or how they do not happen, as the case may be!). Our remit is, of course, on the research side and you are the Chairman, I think, of the Research Committee.

(Professor Johnson) I am acting for the Chairman.

616. Perhaps we might start by asking you if you would tell us a bit more on how the Committee works.

(Professor Johnson) I think the first point to make is that we accept applications coming to us, we do not, as a Committee, direct applications or direct the way things are going to go. So we meet about three times a year and we accept applications for research from a wide area within the region. Largely they will tend to come from the teaching centres just by the nature of research, but we do accept them from small hospitals or single-handed research workers in one of the district hospitals.

617. They apply direct; they do not have to go through their districts?

(Professor Johnson) No, they apply direct to the regional centre. Also from nurses and physiotherapists and non-medical professions, which I think is an important part of this. The Committee, as I think you have seen in the report, is made up of representatives of all these areas and a regional representation so that Nottingham, Leicester and Sheffield all feel that fair play is being done and they are well represented. The applications come in centrally and then they are sent out to referees, just like any other major application. We usually send them to one referee with the region.

618. Chosen by you?

(Professor Johnson) Chosen by us. For example, I, as the surgical representative on the Committee, will be asked to suggest referees for surgical subjects. I may not always know that particular field and I will find that out and suggest referees. I think we have felt in the last two years it is most important to get a referee from outside the region, partly for internal rivalry but also to get a much bigger comment on this, and I think this may go some of the way to solving the problem of duplication. If it was just inside our region and just ourselves we might not know but if we get a referee from London or Edinburgh we will get the overall comment and put it in an international context. The Committee, then, has all the applications and a member of the Committee is asked to present it at the actual meeting, having looked at the referee's reports. Then each one is discussed in turn. You can see the sort of average numbers we get in a year; perhaps it is 40 applications at each meeting. Some of them, obviously, can be dealt with very quickly, others go into top priority and others are then put into the intermediate category and discussed in some detail. I think it is worth telling the Committee this last meeting had to be cancelled because there were no funds to pay any of the applications that came in.

619. They all had been allocated?

(Professor Johnson) They had all been allocated, so there was really no point in discussing projects where you had no money. We do not go in for non-funded alphas, like the MRC does. We hope we are going to have the money for the next time and that these will all go through.

620. Perhaps you will explain to us exactly where the money comes from and what money you actually have at your disposal.

(Professor Johnson) This money comes from the region. To start with it came centrally and then was administered by the region, but over the last five or 10 years it has come from the regional budget. I think it tends to be a proportion of the regional budget that goes towards research.

(Professor Williams) Entirely Exchequer funds.

621. Is that determined by the Department—the percentage of your funds?

(Professor Williams) It is entirely up to each Regional Health Authority to decide what proportion of its budget it will devote to this scheme.

622. That is determined by how flush they are with cash, is it?

(Professor Williams) Partly by how flush and partly what they regard as priorities and partly as a response to pressures from the centres.

[Chairman *Contd*]

623. One of the things said to us on several occasions is, with cuts all round and the problem of living within your budgets and so forth, that research tends to get squeezed out, unless you have a very firm hand on it and say "It is damned well not going to get squeezed out; we will allocate the money and have to cope elsewhere with the cuts".

(Professor Johnson) We are at liberty to go back to the regional officers and say "This is our situation, we would like more". We have done that on more than one occasion. But none of these funds come from Trust funds or anything like that; that is a separate issue.

624. You can get a different approach. One person will say "Research is frightfully important and in no circumstances must it be cut unnecessarily or unduly" and on the other hand you get somebody saying "Patient care is our primary concern and if there is not enough money the patients must not suffer and the research must be cut".

(Professor Johnson) That, I think, is the problem of all financing on health. I think we have stuck to a proportion, on the whole—a certain proportion of the funds. We have a paper here which gives the details.

(Professor Williams) You will see the Appendix 1 that was tabled this morning, which is a league table of a number of regions and includes the absolute sums and the percentage of their revenue cash limits. South East Thames, for example, spends, from Exchequer funds, nearly one and three quarter millions.

625. Have we got that? We have only got the second one.

(Professor Williams) There seems to be just this one copy. This in an enquiry by the Regional Finance Officer here, and the up to date situation, as at the last financial year, for example, is the range in the regions is from Wessex, £106,000 to South East Thames, ten times that, £1,617,000.

626. Is that governed by the attitude of the Authority?

(Professor Williams) Yes.

627. This has nothing to do with these trust funds.

(Professor Williams) Not at all, no. You do not necessarily have compensatory effect.

628. This represents the point we were saying, where one takes one view and the other takes another view.

(Professor Williams) That is right.

Lord Rea

629. Is that related to the total income in those Regions or is it also a pecentage?

(Professor Williams) The percentage varies, I see here, from 0.2 per cent of the entire revenue cash limit, which is one five-hundredth part of the entire spend, down to 0.02 in Wessex, which is a very small proportion.

630. So one tenth in relation to its area.

(Professor Williams) Yes.

631. So it is quite idiosyncratic.

(Professor Williams) Yes.

Baroness McFarlane of Llandaff

632. Can I ask the basis on which allocation of funds is made, that you have the applications in and you tend to allocate according to which is the better project, but my understanding of this small-scale research was that it could be given to encourage somebody to begin and undertake research, so it has an important training aspect in research. I wonder if sometimes you give benefit of doubt to somebody who has a less well-developed piece of research in order to encourage them.

(Professor Johnson) Certainly. First of all they are limited time-scales. We are not financing long-term research. The plan is, as you rightly say, that you start somebody off, they become proficient and experienced, and then they can apply to the MRC or a bigger body, having established their research base. I think one of the problems is that that change-over is much more difficult now because of the central funding not being available, so a number of people who have got to that stage then do apply, and there is not the money at the bigger fund-giving organisations to support that, but we certainly do consider these things; we do not just look at the referees made on the scientific side. We are looking at people as well as projects, and I think Professor Kilpatrick put here that it is to foster a research spirit, and I think we can say we are investing in people and getting the training rather than just looking at a particular project, and what that money would buy at the end of the day.

Baroness Lockwood

633. Do you have any criteria of need within the Region which you also apply?

(Professor Johnson) Yes. We know when they have applied to other bodies—that is put on the application form—so they may say, "We are applying to the Cancer Research Campaign" obviously if that is coming up, and sometimes we may say, "Yes, this is good research but it is not appropriate for this funding; that should go to a bigger body, to Cancer Research Campaign."

643. I was meaning if you saw any particular gaps, because you say you do respond; you do not initiate research, but do you look at the needs within the Region, and if there are any areas in which you think research should be done, do you give any priority then?

(Professor Johnson) You mean the subject rather than the place?

635. Yes.

(Professor Johnson) Yes, I think that is certainly

[Baroness Lockwood *Contd*]

so. We are looking for potential very much here too. You sit down sometimes and say, "This is not clearly worked out and as tight as we would like it, but it looks as if it has potential. It is a very important subject." An example we have funded recently was one on elderly people and hip work which is being done at Doncaster, using ultra-sound studying of bone structure, a subject which has tremendous implications in terms of the elderly population and fracturing hips and so on. That certainly comes into our discussions very much.

Chairman

636. You have to be quite clear about this. You have three things in a way, do you not? You have applications coming from what you might call established teams for ongoing work.

(Professor Johnson) Right.

637. You have applications coming from new people, who may or may not be very bright—you do not know because you have not seen them in operation.

(Professor Johnson) Yes.

638. And then you have new requirements, which were referred to in a previous discussion, of the Region, where you see a need for research and possibly are trying to stimulate somebody to put forward proposals in that area.

(Professor Johnson) I think if people are putting the same application in year after year, we say, "Look, this person has had four years' worth of funds. Our job is not just to continue something. That should go to another body," and we would in that case perhaps give preference to somebody who had not had a previous grant.

639. If that was a very sucessful team you would say, "Now we have got you off the ground and you are successful, go and get your money from somebody else."

(Professor Johnson) Yes.

(Professor Williams) The third of the examples you gave, that here is an area of medical development that the Regional Health Authority would like to foster—the Regional Health Authority is unlikely to ask people to apply for its Regional research scheme. It is likely to award them specific funds, as Professor Scott metioned in relation to planning services for coronary artery bypass grants. It wants to know how much angina is out there, and goes for "horses for courses" and funds the persons concerned. In fostering the research spirit, your question about areas, primary care and nursing research are given some emphasis. They are, as it were, the Cinderellas of the scheme and they tend to get a slightly easier ride from the adjudicators. I am sure you will agree that few researchers are born; most are made, and giving them money is just one aspect of it, so in this Region we are careful to ensure that the would-be researchers with a good idea are put in touch with those who can effectively supervise them. It is not a question of throwing money away and hoping for the best. With the money goes the condition that they must learn. The other thing is that the majority of the money used, if you are talking about fostering the research spirit, largely it is fostering somebody from 85 per cent of his development to 90 per cent, rather than getting him off the ground. Most of the money goes more and more into those areas and levels of expertise which have formerly gone to Wellcome, research councils and so on. There is a knock-on effect.

(Professor Johnson) The very beginning, the pump-priming from the start, is often the smaller trust funds which the individual cities have. If you want quite a small grant to start off, you go there. We see ourselves as a bit more intermediate than just starting. If you look in appendix B (*not printed*) there is a list of all the different services of research projects and you can see the wide variation there is, from transplantation immunology on the one hand to other completely different projects, community projects, psychiatry, this sort of thing.

Baroness Lockwood

640. I notice you have one down here "Career pathways of female psychiatrists".

(Professor Williams) That is a paper about the Medical Care Research Unit.

(Professor Johnson) That is one of the stresses of surgeons, too, is it not? They are looking at these aspects but that is a different thing altogether from this.

Chairman

641. What about the question of keeping a balance between the various fields? Do you do that? In particular you mention nursing and so on.

(Professor Johnson) I think we bend over backwards to encourage that. We certainly do not have a quota system in any way but, I think, as Brian said, there is a slightly easier ride, perhaps. Often these projects are a different sort of project and it is very difficult to put quite as tight an application form for some of these community projects than it would be for doing lymphocytes in transplants. I think it is important we assess these in a slightly different way. So, yes, I think we do encourage particular grants. Often they are quite a small amount of money; they just want a grant for expenses, it is not expensive laboratory research.

Lord Rea

642. If you have an application, say, from primary care and you feel that it might be promising but it has not been thought out well enough and you are not quite sure about the experience of the applicant, what are the steps taken to try and get them to put their project in better terms?

(Professor Johnson) We have two options. One is to turn it down and ask for re-application at another time (and then we would send them the referee's comments, rather like you would for an article to a journal), or the other is we can hold it and after clearing up certain points (for example, if it is a statistical problem we might ask to go and

[Lord Rea *Contd*]

talk to one of the statisticians in their particular university and work through that) they re-apply. We would hold that on the books and look at it next time. We would not actually turn that down.

643. Do you actually advise people where to go in order to improve their expertise? Or are there other forums which really can encourage them to get training?

(Professor Johnson) Yes, I think we would certainly put them in touch with somebody—sometimes even in their own hospital they do not know about—who has got expertise in this particular field. I do not think we largely, for example, suggest somebody should move out of a district hospital and go and work in the university. I think it would be only in an advisory or supervisory capacity we would do that. In my particular field of surgery, as you are probably aware, research is becoming essential for career structure. I am not saying this is good, but that is what has actually been happening because of competition. So all the surgeons in training are now doing two years' research. I think it is part of the reason why the applications for research are increasing. You may say it is not the right motivation for research, but, as you are aware, this is what happens.

Chairman

644. That is a change?

(Professor Johnson) That has been in the last five or 10 years. Now if you are applying for a Senior Registrar post in surgery you will not be short-listed unless you have got your thesis, or got it submitted.

645. Was that introduced by the Royal Colleges?

(Professor Johnson) It was not introduced at all, no, it came purely because the competition was so great—four or five people applying for each Registrar post and people decided "I will get one more thing behind my name to apply". It was not in any way planned. Now we are looking at this again and seeing if we can plan it in a much more sensible structure. There has been this tremendous career competition to get into research.

646. That rests with the Colleges?

(Professor Johnson) Partly with the Colleges, yes, and with the whole career structure in surgery, which is being discussed, as you may well know.

Lord Hunter of Newington

647. I am ignorant of this, I am sorry, but is this surgical research in particular fields, or is it just to get a general training in research methodology?

(Professor Johnson) Yes, it can be in any field. If a person is going to do surgery there they can do an MD or a Master of Surgery. Some of us have not even got a Master of Surgery any more. This can mean a very wide field, often in basic science; it need not be in practical surgery in any sense at all. I am not personally supporting this idea that everybody should do an MD if they are going to work in a District General Hospital; I think this is excessive training in research. I think some training in research—a year or so—is very valuable as training. If you are going to work in a teaching hospital or a university then, obviously, a higher degree is appropriate.

648. What are the fields in which two or three of your young men are training at the moment?

(Professor Johnson) At the moment we have one person who has written his thesis on the subject of oesophageal varices, using techniques to measure flow and this sort of thing. We have got one working on acute pancreatitis but, again, laboratory based but clinical research. We have got another one working on applied physiology of gut motility. In my particular department I have got a reader in physiology and we have just appointed to a sub-department, so we have got the basic science and the clinical work combined, and I see this as a very important way forward in clinical research. Basic science experience and clinical people joining together.

649. So working with a non-medical scientist would be a very important experience for your young men?

(Professor Johnson) Certainly. I think in this country, if I may say so, there has been a tremendous opportunity for clinical research that other countries do not have. I think our Health Service provides this. The way the patients will cooperate in clinical research on patients is, really, fairly unique, I think; you cannot do this in Germany.

Chairman

650. It seems to me we are suffering, from what evidence we have had, acutely from a lack of career structure for the clinical researchers.

(Professor Johnson) That is right.

651. Also, the differentiation between the academic salary structure, or conditions of service, and that of the National Health Service.

(Professor Johnson) I provide a scientific base in my department, which is staffed by PhDs and, perhaps, basic scientists, into which my surgical trainee can come for two years with the basic structure there for him to do his project. He is not in a position to start all this off. You cannot become a specialist researcher in six months these days; you could, perhaps, 10 years ago but now you have got to have the scientific base. Our physics department, again, help tremendously in devising techniques to look at motility and things like that.

652. In view of the importance you see in that (which I can well understand) what would you like to see done to develop that resource in the national interest further still?

(Professor Johnson) I think the academic or the non-clinical person in a clinical department has not really got any career structure. He is half-way; he has come out of his basic science department

[Chairman *Contd*]

perhaps and has not got a clinical career, and is very much dependent on the individual patronage of the individual university to give him, say, a personal chair or some special post or something like that.

653. I just wonder if you can be more precise. How would you see an ideal career structure for such a person?

(Professor Johnson) That career structure has got to be university-based and he has got to be able to be seconded perhaps from his Department of Physiology or Immunology and still be recognised in terms of the university as someone whose academic career is developing. I think at our particular university and in this Region we have people who recognise this flexibility. It is just beginning to start.

654. What about security of tenure? He is on a short-term assignment whereas his opposite numbers in the Health Service are on tenured terms.

(Professor Johnson) He need not be. If he is in a university post, he can be on full time. He can have a tenured post.

655. He could have that?

(Professor Johnson) Yes.

656. But he does not by and large.

(Professor Johnson) The basic scientist may. That is quite different from our surgical trainee coming in for two years. That is where the problem lies, where he comes in for two years to a research post, for example, which is perhaps funded through our Committee. At the end of the day he has no post to go to. He then goes back into the pool to compete for the next post in the career ladder.

Baroness Lockwood

657. A point was put to us yesterday—and perhaps this is different in the surgical field—that the person who has done research is then at a disadvantage in going back and applying for a clinical post because, having been out for a couple of years, perhaps his clinical experience is less than some of the competitors in the field. Do you not experience that?

(Professor Johnson) No. You can overcome that in several ways. I have a system whereby my research people have a month in the lab and a month doing clinical.

Chairman

658. So they keep themselves up-to-date?

(Professor Johnson) Yes, but this is as a career structure; unless you have done research you will not even begin to get at that next place, so you have to have done it. I think you are right; an isolated post which is on grant money is often somewhat on a limb, and I think these posts have got to be much more part of a training programme and the person does not then come back and just compete.

659. You are taking your own initiative to rectify the situation. That is personal to you. That is not done by other people.

(Professor Johnson) I think the surgical fields are very aware of this problem and are looking at it very seriously. The other thing that happens, for example, is that you keep his clinical post open and bring in an overseas person from Australia or a developing country for two years, and the other person can then come back. These are the sort of ways one overcomes those problems.

Lord Hunter of Newington

660. There is a fundamental difference, is there, between surgeons and the rest, in the sense that the surgeons have to retain their skills and dexterity in doing practical surgery, which is very important? This does not really apply to physicians, does it?

(Professor Johnson) Yes, and most of them, after doing two years pure research funded by, say, a grant-giving body, will then go back to a clinical post for another year before applying for a senior registrar post. That is perfectly right.

Chairman

661. On the other side of the spectrum, as you might say, of health services research, it would seem to me that you are really much more dependent upon the Regional Health Authority saying what they want done rather than somebody coming up and saying, "This would be a good thing to examine." Do you take that initiative in your Research Committee in the Health Service field?

(Professor Johnson) That really comes under the second heading, of operational research perhaps. We do not as a committee certainly direct research projects, but Brian is familiar with operational research and can talk about that side.

662. That does not come up to your Committee?

(Professor Johnson) No.

663. That is handled separately?

(Professor Johnson) It is excluded by the terms of the Committee.

664. Does that come up to another body?

(Professor Williams) That comes up to an *ad hoc* body of the Regional Health Authority's own officers, who may take advice from people like Professor Johnson or people like him.

665. How does that work?

(Professor Williams) Well, somebody may have an idea that they know exactly the sort of surface to put on the floor of an old peoples home to stop people slipping, to stop them fracturing their femurs and they want to try it out experimentally. That is not something that would be funded as clinical reasearch. So the idea is put to the Regional Health Authority, it is discussed internally with the officers—and they may take expert advice from a materials person, for example, or a orthopaedic surgeon--and they make an *ad hoc* decision, just

[Chairman *Contd*]

like that. A group of general practitioners may want to develop their case registers or the exploitation of their case registers for some screening purpose. That would be seen as a development in aid of the management of their patients. That would come up. There is some difference from region to region. Some regions, in fact, extend the scope of their research schemes to include that sort of research; I think it is the North Western Region which actually hives off quite a proportion of its budget for that sort of research.

666. There could be substantial financial advantages if they discover they can do things at half-cost and so on. It is well worth the investment in research.

(Professor Williams) Yes.

Lord Rea

667. Is the money for operational research part of that 0.2 per cent allocation? Or is it a separate chunk?

(Professor Williams) No, that is a separate chunk.

Chairman

668. Is it of the same order?

(Professor Williams) No, much less. And inflexible.

(Professor Johnson) It is not a fixed chunk, is it?

(Professor Williams) It is not a fixed chunk, it depends on the attractiveness of the ideas that come in.

Lord Hunter of Newington

669. Is there a constant stream of advice or suggestions on operational matters from the Department to the Regions?

(Professor Williams) No.

Chairman

670. There is not any coming from the Department to the Regions?

(Professor Johnson) There is a lot of advice on design of hospitals. That has been established over the years.

671. If you take the size of the Health Service and the enormous sums which are being expended —the biggest company in the country, basically— would you say that the amount of effort and money that is devoted to operational research is about right, or would you say it is ludicrously small?

(Professor Williams) One does not know how much money is devoted to operational research, there is no statistical return which tells you.

672. Nobody knows?

(Professor Williams) Nobody knows.

Lord Hunter of Newington

673. Would the introduction of managers make any difference to this?

(Professor Williams) Certainly a manager who thinks in terms of outcomes and wants to know how the processes of his organisation affect outcomes must, it seems to me, sponsor research.

674. This should increase the development of managerial functions. We are seeing someone at lunch who is a manager—has it made a difference? I am not wishing to be unkind to the person, it is not a personal question, but has introduction of management into Trent made a great deal of difference?

(Professor Williams) At regional level it certainly has.

675. In what sort of way?

(Professor Williams) Inasmuch as, for example, option appraisals for development are much more carefully structured. I think Professor Scott was telling you about the economics consortium at York, who are set up and then made available for the Districts in the region to apply to them for help. At a cost; they pay for what they get, in terms of their own particular options regarding services.

Baroness MacFarlane of Llandaff

676. Looking at the range of themes of projects in your own unit, they seem to be very wide-ranging, as one might expect. Is there any attempt to be pro-active and focus on certain areas of research? Or do you respond to requests almost inevitably?

(Professor Williams) No, units like ours have guidelines set by the Department for the range of activity which you can develop and certain themes emerge. That is what is possible, if you like. The main themes are questions of the interface between public and private sector health care and also questions of Health Service manpower. Those are the two main themes. There are two sub-themes, such as terminal care services. It is therefore a mixture of main activity involving a whole group of people, and then main activities for certain individuals simply because of their aptitudes and interests; they will develop particular lines with support from everybody else. So you have a sort of caucus moving through private/public sector health care questions and then terminal care, based on a particular individual with help from the others.

677. I was thinking even on the manpower front, the range of projects seems to be very wide, that you are looking at nurses moving between the public and the private sector, female pyschiatrists, people in complementary medicine. It seems to be a tremendous range, without focusing down on one group for any length of time.

(Professor Williams) You are actually at the end of a very long line there of research into female psychiatrists.

Baroness Lockwood

678. When you say "at the end of a very long line", what do you mean exactly?

[Baroness Lockwood *Contd*]

(Professor Williams) The research into the career development of female doctors, of which psychiatry was just one branch which was looked at in detail, has been a theme of the unit for twelve or fifteen years, and the particular member of staff involved, Dr Ward, has recently retired and this, if you like, is the last piece of research she did in that line, but it was a very long-running theme.

679. Again, one of the things which we were looking at yesterday was the problems of career structure in the Health Service, particularly on the academic side, and the difficulties that women doctors were facing because of the lack of flexibility in the system. Has the research that has already been done in the unit looked at this problem?

(Professor Williams) The research certainly highlighted the sorts of questions that are rapidly now being accommodated, the solutions for time out, part-time training and so on, retainer schemes, so much of the work that was done in fact predated some of the solutions that have now come in.

680. We were told that again, the system is rather rigid and therefore there was less scope for part-time appointments, fitting in women who maybe wanted to move out for a period and then return into the Health Service. Are you finding that these are difficult problems in you Region?

(Professor Williams) Professor Scott would speak better to that than I would, but I am quite sure that it is true in certain specialities.

(Professor Johnson) It is very difficult to do surgery part-time or to spend time out in surgery. The anaesthetists have had a scheme, and I know one of our own people did a part-time anaesthetic senior registrar, a married woman, and she took longer than you would normally do (six or seven years instead of four years) and she was appointed a consultant in the Region after doing that training. She was the first to come through that particular scheme. It is moving, but slowly I think. I think we are too rigid at all levels and the interchange between different specialities is still very rigid. For a surgeon, supposing he does get six years along in the training and finds he cannot get along the next block, to go into general practice is very difficult now. His surgical training has almost trained him out of that. I would like to see the first three years of training much more omnicompetent, so that people could then move at any level after that. What we have now is perhaps three or four people who have trained for eight years in surgery all applying for the same post; in other words, three do not get it. In the old days they went to Australia or Canada.

681. What happens to them now?

(Professor Johnson) This is the great crisis we are up against. We have people with MD or FRCS who cannot get any further, not because they are bad but because of the limited number of jobs. We are overcoming that by increasing the consultant posts. It is a terrible waste of research investment and training investment. The way we are looking at that is to increase the number of consultant posts so you have a bigger outlet, but if you are in a profession where you only have a fixed number of posts which you cannot increase from market forces—for example, if you are a solicitor you can set up another office—then you have got a bottle-neck.

Lord Hunter of Newington

682. Would secondary care centres make any difference to this?

(Professor Johnson) Secondary care centres in terms of what?

683. It is an enlarged practice situation, where you have diagnostic facilities and various other consultations.

(Professor Johnson) Based on a general practice?

684. Yes.

(Professor Johnson) The general practice is the one area which can expand, I think. They can expand their numbers, but we have been given, I think you know, fifteen new consultant's posts in the next few years, which will be financed, in surgery and orthopaedics combined, but I think in terms of the career surgeons, these wider things would not help that problem, because that is not the limitation. We need more consultant surgeons. In our Region we have actually increased them by combining two people into a post where one person has retired.

Chairman

685. It seems rather odd that you say you need more. The statistics show that more are required—you have these waiting lists and so on—and yet three out of four are not being taken on because there is only one post available. What determines that?

(Professor Johnson) It is financial, I suppose, to a large extent. It is no good appointing another person if you have not got the facilities, for example, to operate in.

686. Supposing we said, "We have got these waiting lists. We will take all four of these chaps on and let them get on with getting these waiting lists down." Then you say that there are no facilities, no nurses or what?

(Professor Johnson) In our hospital when two people retired we replaced those by four and we used the same facilities. Instead of having six operating sessions each they had four. We reduced it in that way.

Baroness Lockwood

687. Four part-time people?

(Professor Johnson) No, we made two posts into four posts, with a bit more speciality—not four doing just the same thing. It is partly a will to do this and it is partly the money to do it, because to make a new consultant, he has got to have secretarial help and so often you can finance the

[Baroness Lockwood *Contd*]

actual person but not the back-up facilities, the out-patient, the theatre time, the anaesthetist to go with him; a surgeon is pretty useless without an anaesthetist, so it is not just one person.

688. But is it left to the Regions to determine how many consultants they will have or is this now being limited?

(Professor Johnson) No, it has not actually been limited. It is left to the Regions to do that.

689. But I understand that a certain number of new consultant posts have been established.

(Professor Johnson) Yes.

690. But in addition to that you can as a Region establish more?

(Professor Johnson) Oh yes, if you think that is the right way to spend your money, but you are weighing up whether it is a radiologist that you need or another person, or more nurses. It all comes from the same pool.

Chairman

691. The Department is not saying you can only have so many?

(Professor Johnson) No, they are not actually saying that, and they are encouraging it by putting a certain amount of new money into new posts.

Baroness McFarlane of Llandaff

692. Who determines the kind of skill mix that is needed?

(Professor Johnson) That is very much locally determined. You mean in terms of whether you have a neurologist or a general surgeon or a vascular surgeon—that sort of mix.

Lord Hunter of Newington

693. A part-time appointment with private practice. Has that got any future in this part of the world?

(Professor Johnson) A number of people do it.

694. Fifty per cent?

(Professor Johnson) Nobody does fifty per cent. It is normally full-time or a mix. I think in this particular area it would be very unlikely there would be enough private practice to do more than——

695. Nine hours?

(Professor Johnson) Yes, that sort of session. Part-time people to do sessional surgery, I think, is the real answer. We should look at the career structure there. A lot of the surgery on the waiting lists is fairly minor surgery and you do not need consultant experience for it. At the moment it is being done by all these Registrars who cannot get the next post. To have a part-time system where somebody who is in practice who has got their FRCS but did not want to go through all these research things we are talking about might want to do sessions, might be a good thing. That happens in ENT, it happens in eyes and it could be extended.

Lord Hunter of Newington] There could be more flexibility and imagination required to get rid of these waiting lists.

Lord Rea

696. The part-time surgeon who was a general practitioner most of his time was frowned upon and phased out about 25, 30 years ago. Are you now advocating, in fact, to a limited extent this should come back?

(Professor Johnson) To a limited extent, but under the control of a unit and not operating in a cottage hospital by himself. There you have got to think of career structure and it is still a problem of what happens to him? He is all right when he is 30 (or she is 30) and the consultant they are working under is 50, but when that role reverses I think you can get problems. In other words, he has grown through and become experienced and the new consultant comes in. I can see problems there. This is one of the things being suggested in the Heyhoe Report; in a limited way solving some of the problems, perhaps, in certain areas. I think we come back to your point of flexibility: we are too rigid in all our schemes and to look at the particular solution for our particular region. It may be very different in Leicester than in Sheffield. It may be different in Lonndon. I think if we could be more flexible——

Chairman

697. But the rigidity is built in by whom? By the Regional Health Authorities or by the Department?

(Professor Johnson) By the well-established career structures, I think. We, as a professional group, as surgeons, have the power to change, through the Royal Colleges, our training structures. That is being looked at very actively, as you probably know, at the moment and I think it will change very radically in the next few years. That will affect research and I think we will be finding research will be done at a younger stage now. Having done their research they will then, again, be in a position to go into any branch; it will not just be surgical research for surgeons.

698. You say this is being looked at now. Is there not a report coming out from the Colleges?

(Professor Johnson) Yes.

699. When is that going to come out?

(Professor Johnson) It is very soon. Plans for the new FRCS are being discussed between the four Royal Colleges of Surgeons. The physicians have got their act together a bit more, they have a united degree diploma for the whole country; the surgeons are still in four different colleges.

700. I do not know whether we will be able to take into account what that is going to produce?

(Professor Johnson) I think that is relevant to the research bit of the career and I think this will change.

Baroness Lockwood

701. Can we just have a little more elaboration of the structure. I had understood it that there were new consultant posts being provided through some national scheme and that that was then beginning to cause difficulties further down the line because the number of senior registrars was being limited in order to fit into the number of consultancies that were available. If this is so, what is happening up to the line when men and women become registrars? There is a limit on their prospects of promotion to senior registrar. What is happening to that group of people who are being trained? How are we utilising them?

(Professor Johnson) I think historically what happened was they looked at the number of consultant posts, and said "we are training far too many people for this limited number in general surgery" (about 1,000, something like that throughout the country) "we will put a lid on the senior registrars." I think, if I may say so, that was perhaps the wrong way round; they suddenly put the lid on and said "We only need that number of registrars to get these posts" and then everybody who was coming up came up against this lid. It would be much better to switch off the input into training first and then let these grow through. It is rather like the bath water overflowing; just putting the plug in does not actually help your problem, it is much better to turn the tap off.

702. Are you suggesting that too many people are being trained?

(Professor Johnson) Yes, far too many, in surgery. I think surgery epitomises the acute problem because that is, perhaps, we train ourselves out of other aspects. Far too many people are coming in at the bottom because there is no limit to the number of posts at the middle grade stage, the lid has been put on the top. In this region they have cut our senior registrars by one to 18 because they rightly say that is the number you need to train for the consultant posts.

Lord Hunter of Newington

703. But the honorary senior registrar or the honorary——

(Professor Johnson) They are included in that.

704. Are they included in the Wellcome paid things?

(Professor Johnson) In this region we have not got any. Anybody established in surgery for the last five or six years, you have to be given a number as a senior registrar. The way round this problem is to stop people coming in at the bottom and to expand the top; in other words, make your pyramid into a much more parallel line.

Baroness Lockwood

705. But the number of students going into the medical schools is limited. Again, are you saying that too many from that number are opting to go into surgery?

(Professor Johnson) Yes, certainly, because there are posts; in other words, the selection is taking place at a much too high level in the training. Holland has gone to an absolute restriction and is only allowing ten people to go into surgical training now.

706. So you are not saying that the input into the total number of medical students is too high?

(Professor Johnson) That is another question, I think, and that very much comes back to career expectations. Fifty per cent of our students are women and what will be happening in terms of their full-time work in ten years—these are factors which we just do not know. Professor Richmond, who has just arrived, as Dean will have comments on that, but the problems in a speciality like surgery are that the option to take up those new posts which you have mentioned the Government has provided is up to the individual District to apply for them; they are not going to be forced on them. We would like other surgeons and we apply for that and that does not seem to have happened except in a few places. Here we have certainly put in four of five new surgeons in this immediate District in the last five years. I think this has made a huge difference to the work load and the way our waiting lists have come down. That has been our option, and I think RAWP has helped that too to an extent.

707. Use of additional funds in that way?

(Professor Johnson) Yes, and I think our managers now have the ability to look at a problem and say they are going to put that money into that problem, whereas before it was earmarked for a particular post. Money for doctors was earmarked for them, but they have used this very effectively in the last year or two.

Chairman

708. Perhaps we had better move on to the next session. Are you joining us for lunch?

(Professor Johnson) Yes, I will. Thank you.

Chairman] So we can in fact pursue some of these things further then. That was very interesting. Thank you very much for taking the time to come along and join us.

Appendix I

SPENDING ON CLINICAL RESEARCH IN THE YEAR ENDED 31 MARCH, 1986

(These figures are estimates prepared by Trent Regional Health Authority).

Region	*Amount Spent from Exchequer Funds*	*% of Revenue Cash Limit*	*Amount Spent from Trust Funds*	*Total Amount Spent*	*Total Spending as % of Revenue Cash Limit*
	£		£	£	
Northern	352,600	.06	66,700	419,300	.07
Yorkshire	341,400	.05	280,500	621,900	.09
Trent	419,700*	.05	812,000	1,231,700	.15
N.W. Thames	295,900	.04	97,200	393,100	.06
S.E. Thames	1,617,000	.21	2,653,000	4,270,000	.56
Wessex	106,600	.02	593,600	700,200	.14
Oxford	1,406,700	.36	1,000	1,407,700	.36
S. Western	362,200	.06	344,000	706,200	.12
Mersey	298,000	.06	105,000	403,000	.08

* Trent's expenditure from Exchequer Funds in the year ended 31 March 1987 was £437,000 an increase of just over 4% on the figure shown above.

Appendix II

SPENDING ON CLINICAL RESEARCH FROM TRUST FUNDS IN THE YEAR ENDED 31 MARCH, 1987

	Health Authorities			*Special Trustees*		
	Total Income	*Excess Income over Expenditure*	*Expenditure on Research*	*Total Income*	*Excess Income over Expenditure*	*Expenditure on Research*
North Derbyshire	503,377	296,523	—			
Southern Derbyshire	457,712	192,238	17,344			
Leicestershire	1,047,370	189,152	74,086			
North Lincolnshire	129,804	26,804	—			
South Lincolnshire	190,522	121,573	—			
Bassetlaw	89,405	19,594	—			
Central Nottinghamshire	130,005	26,729	—			
Nottingham	734,677	523,253	42,283	385,553	118,258	101,547
Barnsley	224,342	114,928	—			
Doncaster	366,690	263,554	24,361			
Rotherham	343,381	137,780	70,534			
Sheffield	953,740	121,371	120,308	905,353	70,475	627,008

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MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

at

TRENT REGIONAL HEALTH AUTHORITY, SHEFFIELD

Friday 17 July 1987

Professor J Richmond

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FRIDAY 17 JULY 1987

Present:

Hunter of Newington, L.	McFarlane of Llandaff, B.
Kearton, L.	Nelson of Stafford, L. (Chairman)
Lockwood, B.	Rea, L.

Memorandum by the University of Sheffield Faculty of Medicine and Dentistry Medical School

SUMMARY OF RESEARCH PRIORITIES FOR THE PERIOD UP TO 1990–91

Clinical and Experimental Endocrinology—Endocrinology is a specialty for which the adacemic clinical departments provide a large share of the responsibility within Sheffield and their research activities are frequently related to fundamental investigations in other departments in the Medical School (Human Metabolism and Clinical Biochemistry, Medicine, Obstetrics and Gynaecology, Paediatrics and Physiology, in which there is a joint appointment). Several of these departments actively collaborate in teaching and research with departments in the Biological Sciences.

The programme embraces studies in the control of normal growth and development, the pathogenesis of thyroid and pituitary disease, neuroendocrinology, clinical trials in endocrine and metabolic diseases, as well as studies on the action of hormones, growth factors and neurotransmitters at a cellular level. Many of the fudamental studies are on man, and excellent intercommunications and collaborations exist between the different groups with endocrine interests. Future studies will exploit the considerable expertise in studies of cellular signalling, particularly in the pituitary and thyroid, paracrine and autocrine control functions and the neural control of pituitary function.

The interaction between endocrinology and fundamental biological science is well illustrated by the impact of advances in immunology, not only in providing dramatically improved hormone assays, but also in illuminating the whole field of cell interactions in a number of tissues, including bone and the thyroid and in furthering our understanding of the pathogenesis of endocrine disease.

Discussions are well advanced with the Regional Health Authority for the funding of a Senior Lectureship in Diabetes, a major health problem in hospital practice and in the community.

Metabolic Bone Disease—Sheffield is recognised as one of the major international centres through the Department of Human Metabolism and Clinical Biochemistry for research into skeletal disease and the treatment and investigation of metabolic bone disease. Metabolic bone disease is a relatively neglected area, but affects millions of people in this country. It requires an inter-disciplinary approach since skeletal disease involves many clinical specialties including Orthopaedics, Oncology, Endocrinology, Rheumatology and Urology. Awareness of metabolic bone disease is increasing and is a major development area, both for therapeutics and research. This is being increasingly recognised by Health Authorities, grant giving bodies and the general public and is attracting funds from national and international sources, including donations from industry.

The objective of future clinical work will be to explore the disturbed biochemistry and physiology that contribute to the pathogenesis of bone and joint disease, and to improve methods for the treatment of skeletal disorders. The continuing theme of the basic research is the study of the cell biology of bone and other connective tissue cells and its application to bone and joint disease. One major area of current and future interest is the interaction between the immune system and connective tissue.

The continuing rapid progress in biological sciences promises many exciting developments during the next few years. Future studies of bone biology will be directed towards a better understanding of the origin and function of bone cells, of the factors (including cytokines and neurotransmitters) that control their function and of intracellular signalling systems. The application of the techniques of cell and molecular biology will enhance understanding endocrine and genetic contributions to bone disorders. These advances will occur at a time when clinical problems due to degenerative joint and bone disease in an ageing population will increase. There is a strong commitment to the concept that research devoted to these problems needs to combine the techniques of basic science with those of clinical medicine, in order to be in the best position to take advantage of new developments.

Human Infertility—A unit in Reproductive Medicine has been established integrating clinical and laboratory research. Pre-ovulatory folliculogenesis is studied by single follicle puncture and the endocrine environment probed. Endometrial ultrastructural morphometry (in conjunction with the Department of Anatomy and Cell Biology) is correlated with the endocrine sequences assessed by salivary steroid profiles and the endocrine events of implantation disorders defined. Pulsatile hormone release is being studied using newly developed ELISA and IRMA monoclonal antibody bases assays, which are superior to previous peptide bioassays, altering concepts of feedback control in the hypothalamic-pituitary-ovarian axis. Ultrastructural morphometry of the human spermatozoa in normal and abnormal clincial conditions is being carried out in conjunction with the Department of Anatomy and Cell Biology. Optimal patterns of clinical investigation in infertility have been refined in collaboration with the Computing Services; a major community review of psychosocial aspects of infertility has been completed and appraisals of the delivery of clinical care in this area is being developed.

Clinical Pharmacology—Sheffield is an internationally recognised centre for drug metabolism and kinetics and this reputation is based on close collaboration between scientists and clinical investigators. A major interest is the variability of human responses to drugs, particularly the influence of genetic control of metabolism. A number of interlocking research approaches are involved, including drug studies in patients and volunteers, drug metabolism in isolated organ systems, metabolic studies using human liver microsomes, animal studies using subcellular fractions, theoretical and mathematical aspects of the detection of polymorphism in drug metabolism in man, and the application of these research findings to improve drug efficacy and safety.

Since 1985, the work on genetic polymorphism has developed and is now supported by a Research Project Grant from the Wellcome Trust. This grant is held jointly with the Wolfson Institute of Biotechnology. The Departments are investigating the expression and characterisation of human cytochrome P-450 in Saccharomyces cerevisiae. In collaboration with an NHS colleague in Haematology at the Children's Hospital, a new MRC Project Grant has been awarded, supporting investigations into the use of drug breakdown products as red cell markets in the treatment of childhood leukaemia. This work has demonstrated a probable genetic basis for failure to respond to treatment in some cases. The work also involves collaboration with major centres in the USA, who are providing patient blood samples.

As from 1 January 1987 the Trent Regional Health Authority is funding a new Lectureship in Pharmacology and Therapeutics with specified research interests in cancer chemotherapy.

Further research grants awarded recently include a grant from the National Kidney Research Fund into the mode of action of azathioprine, and a joint grant by the Wellcome Trust (shared with the University of Birmingham) for an investigation into the pathophysiology of the renal prostaglandin system.

Oncology—Clinical Medicine is actively engaged in cancer research across a broad front with flourishing interdepartmental collaborations within and outside this funding group. Continued substantial support from the Yorkshire Cancer Research Campaign and other organisations through to 1990–91 and beyond is anticipated.

Recent major initiatives to which high priority is attached include the establishment of a molecular biology unit to conduct genomic analyses in clinical and experimental oncology. The research techniques include in-situ hybridization, which will have wide application, and interest has already been shown by groups outside Clinical Medicine. This new molecular biology unit is regarded as a foundation of resources to enhance the ability to attract research income in this important and competitive area of oncology.

An increasing application of flow cytometry to a wide range of clinical and experimental lesions is anticipated. Recent enhancements to the instrumentation enable multiparameter analyses of cell populations and the evaluation of new diagnostic markers such as monoclonal antibodies.

The role of hormones, growth factors and their receptors in cancer will be the continuing interest of several groups of investigators in Clinical Medicine. These are liaising closely and collaboration with the molecular biology unit is also anticipated. Active programmes include the role of growth factors in neoplastic development, and steriod hormones and their receptors in the pathogenesis of liver neoplasms.

Carbon dioxide laser apparatus (extensively used for vaporisation of pre-invasive carcinoma of the cervix) has been developed further in collaboration with Heriot-Watt and Hull University Departments of Medical Physics and brought to commercial use. The DHSS supports the application of the neodymium/YAG laser to treatment of endometrial pathology and outpatient cervical cone biopsy.

The YCRC has recently donated a capital sum of £0.5m for cancer research. Discussions are in progress with the Regional and District Health Authorities, which it is hoped will lead to the establishment of an academic unit in clinical oncology.

Medical Physics and Clinical Engineering—The Department has a reponsibility for both University and Health Service activities. In both respects it has a national and international reputation. Much of the research is undertaken in collaboration with clinical colleagues and reflects the major research and development interests of the Medical School. Many projects are in progress and can be classified under several headings, the main ones being cardiovascular sciences, medical imaging, physiological measurement and signal analysis and artificial organs.

The design, development and failure analysis of artificial heart valves is a major part of the work in cardiovascular science. The Department's reputation in this field has led to its appointment by the DHSS as the United Kingdom official centre for evaluating such devices. A multicentre trial dealing with heart valve implant patients is also centred in the Department and is the only study of its size in Europe and the USA. The expertise is haemodynamic analysis has led to fundamental work on erythrocyte and platelet function, particularly in relation to the formation of platelets from megakaryocytes in the pulmonary circulation.

Vascular research forms a substantial element of the Department's work and ultrasonic and laser Doppler blood flow measurement techniques used in this research have also been developed for routine clinical services. All this latter work forms part of a large multi-national investigation funded by the EEC. All the data processing and analysis for this investigation is carried out in Sheffield.

The University is about to appoint a new Kodak Professor of Radiodiagnosis from October 1987 with the generous support of the Health Authorities, and it is expected that the successful candidate will liaise closely with the Department of Medical Physics and Clinical Engineering, particularly in relation to research in medical imaging, including nuclear medicine. This latter diagnostic service is one of the Department's major para-clinical routine service commitments.

Research in medical imaging includes the development of a completely new imaging modality based on the measurement of the electrical resistivity of various body tissues. This unique non-invasive technique has reached an advanced stage of development and clinical investigations of its use for the study of pulmonary function, gastric emptying and intraventricular bleeding in neonates are being carried out. As with many other developments in the Department this system, which has been fully patented, is being exploited commercially to the financial advantage of both the University and the Department.

Other areas of research include computerised interpretation of infant respiratory patterns, objective analysis of evoked auditory responses, characterisation of tissue by measurement of texture in ultrasonic scans, electrical properties of tissue and the effects of externally applied electric and magnetic fields, the development of sensory substitution aids for the profoundly deaf, and the use of focused microwave fields for the treatment of malignant tumours. In addition to these research fields the Department is funded by the DHSS as a major evaluation centre in the UK for various types of medical devices, including equipment used for physiotherapy and renal dialysis. The Department's reputation in the field of evaluation is, in keeping with its research activity, well known both at home and abroad.

Haemostasis and vascular disease—The Department of Haematology has an established international reputation in biochemical and laboratory aspects of haemostasis and thrombosis. It has strong ties with the European Community in that it is a designated European Thrombosis Research Organisations (ETRO) laboratory and has responsibility for the quality control of certain aspects of fibrinolysis for EEC laboratories participating in ECAT (European Concerted Action against Thrombosis) clinical studies in Coronary Artery Disease.

The Department is actively engaged in basic research concerned with platelet-vessel interactions and their relationship to thrombotic and haemorrhagic disorders. Collaborative studies are being undertaken with other departments in the Academic Divisions of Medicine and Pathology, and important contributions have been made in respect of the pathogenesis of diabetic microangiopathy and the influence of dietary lipids on platelet biochemistry and blood rheology. The Department has attracted substantial financial support from the British Heart Foundation, British Diabetic Association and locally-organised Research Funds, and is also in receipt of research grants from a number of concerns in the Pharmaceutical Industry. It has obtained funding for a Temporary Lectureship in Haematology from the Sheffield Health Authority. Looking to the future, a prospective study is to be made into the risk factors involved in diabetic complications and this will certainly be amongst the first such studies to be made. A multicentre therapeutic trial of interferon in liver disease associated with haemophilia is being organised from this Department in collaboration with the Department of Medicine (RHH), following encouraging reports of such treatment in viral hepatitis.

Genito-Urinary Infections—Collaboration between the Department of Medical Microbiology and Virology and the (NHS) Sub-Department of Genito-Urinary Medicine has established Sheffield as a main centre for the study of these most common infections, particularly of the role of synergy and metabolic interactions between different bacteria and between bacteria, chlamydia and viruses in conditions such as genital ulceration, urethritis and vaginosis.

Gastroenterology and Nutrition—In October 1985 the Sub-Department of Gastrointestinal Physiology and Nutrition of the Department of Physiology was established within the Department of Surgery at the Royal Hallamshire Hospital. This produced a group, probably unique in Britain, which blends internationally recognised expertise in several areas—an extensive knowledge of human physiology and wide experience in the investigation and clinical management of patients with gastrointestinal disorders. In the three years up to 1986, this discipline has received £151,000 for research, and in the year since 1986 the Sub-Department has raised £144,000 in research grants. There is now a Sheffield University Nutrition Group to coordinate work in this increasingly important area, and there have been exciting developments in non-invasive techniques of investigation with the Department of Medical Physics and Clinical Engineering. Patients are being referred from throughout the Trent Region, and beyond it; for example, in the area of anorectal function alone, 700 tests have been performed on patients in 2 years. Future plans are to develop further understanding of the pathophysiology of many common gastrointestinal conditions and the role of the gut in nutritional disorders, and then to establish both surgical and medical treatment, in conjunction with the Department of Surgery and the NHS gastronenterologists.

In 1978 a joint medical/surgical gastrointestinal unit was established in the Royal Hallamshire Hospital, which brought together the Departments of Medicine and Surgery and NHS gastroenterologists. This unit has become nationally recognised for its research and clinical expertise in inflammatory bowel disease and for its management of the complications of chronic liver disorders.

Medical Care Research Unit—The DHSS has funded a Medical Care Research Unit in the Department of Community Medicine since 1965 through recurrent five-year grants, under the directorship of the professorial head of department. Through the 1970s and early 1980s its reputation grew for its work in the fields of primary care, terminal care and postneonatal mortality (cot death).

DHSS confidence in the Unit resulted in the award in 1985 of a six-year rolling programme contract. It now has a multi-disciplinary core of medical, statistical, sociological and economics staff. Its annual level of funding from DHSS is over £150,000. Trent Regional Health Authority invests another recurrent £50,000 and, with project grants from sources such as the Medical Research Council, the Nuffield Foundation, the Nuffield Provincial Hospitals Trust, and charities like the Foundation for the Study of Infant Deaths and Help the Hospices, the income administered by the Univeristy exceeds £0.25m.

The Unit is known nationally and internationally for its work in the fields mentioned above, and for its expanding portfolio of research into the public/private mix of health care, long-term oxygen treatment services, exercise-related injury, the use of complementary medicine, and hospice care.

16 February 1987

Examination of witness

Professor J Richmond, Dean of the Faculty of Medicine and Dentistry, University of Sheffield, called in and examined.

Chairman

709. I must apologise, professor, that we are behind our time schedule, but thank you for coming along and joining us and givinig us the benefit of your advice. We are, as you know, enquiring into the state of medical research, particularly in relation to the needs of the National Health Service. Perhaps I might start by asking you if you would like to tell us how you see the situation of medical research in relation to those requirements.

(Professor Richmond) Thank you, Lord Nelson. First of all, I am very pleased to be asked to meet you, and I imagine many of the problems have been addressed already. What I thought I could do is give you a little idea of what goes on in a large provincial medical school such as Sheffield.

710. That would be very interesting and helpful.

A. I have prepared a few opening remarks. I am Professor of Medicine here, doing penance as Dean, at the end of my second year.

711. Is that three years?

A. Yes, If I may, I will give you a couple of minutes on the background to our medical school, and then an indication of our research priorities over the next few years and then an indication of where we get our money from and some miscellaneous points which could come up in discussion. May I approach it in that way?

712. That would be most helpful. Yes, please.

A. I have brought with me a summary of our research priorities which was prepared for another reason. I appreciate you will not want to gather a lot of paper but I will leave a few copies, which you can look at later if you wish.

[Chairman *Contd*]

The origins of the Sheffield Medical School go back for a very long time but it was properly established as a university medical school about 80 years ago. It was quite a small medical school originally, taking only about 40 students per year in the early post-war years, but it seems to have attracted a number of people of great distinction early on: Sir Edward Mellanby, who was here in the twenties, did a lot of the pioneering work on nutrition in that period; he was followed by Sir Edward Wayne in the chair or pharmacology and therapetuics who started an interest in endocrinology, which is still a great strength here. Howard Florey was our professor of pathology in the mid thirties. Interestingly, we have just recently discovered that crude penicillin extracts were being applied to eye infections successfully in 1930 in Sheffield before Howard Florey ever came here. Unfortunately it was never published; it might have done more for Sheffield than steel ever did! Hans Krebs did his work in biochemistry here in the fifties. So there is this background of research in quite a small medicine school.

713. Is there any specific reason you can point to as to why Sheffield attracted such good men? Was it particularly well-endowed by the steel magnates?
A. No, far from it, Lord Nelson.

714. It is just that one good man leads to another?
A. I think it is fortuitous. During the first 25 years of the Health Service this was an enormously deprived part of England; at the bottom of the national league in almost everything that could be measured, but within the last 15 years there has been an enormous transformation. The medical school here has doubled in size from an intake of about 80 per year to 150; we also have two new medical schools in the Trent region, which makes us unique in the whole of the Kingdom, having two *new* medical schools in the same region in Nottingham and Leicester.

715. That was a decision of central Government, was it not?
A. Yes. Inevitably there is some competition for resources, but amicable. Sheffield can be seen as being relatively affluent compared with the new medical schools. New hospitals have been built in all the major towns around Sheffield—Doncaster, Barnsley, Rotherham and Chesterfield—which is an enormous teaching resource we did not have 10 years ago. But, despite RAWP, there are still enormous gaps. I believe you have just come from Edingburgh where my own roots are, and when I came here the contrasts were quite enormous in some areas. To give you an extreme example, we have only two medical cardiologists serving a reference population of 2 million, in this growth subject. Moreover there is no academic presence in cardiology at the moment but we are working on it. Like all provincial medical schools our great strength, I think, lies in our deep integration with the National Health Service. the university clinical academic departments provide something like 20 to 40 per cent of the acute hospital services in the city depending on the speciality. I imagine that is fairly typical of large provincial medical schools elsewhere.

716. Would that be higher here than in Manchester, say?
A. No, I think it is probably the same elsewhere. Lord Hunter might comment on Birmingham but I imagine it was of that order—about 30 per cent or so.

Lord Hunter of Newington

717. I would think so.
A. So we rely heavily on the "knock for knock" arrangement. We get enormous support from our Health Service colleagues for teaching and, as I will try and indicate in a moment, enormous support in our research endeavours also because of this symbiosis. The recent UGC constraints are rather tough on the Dean who has to maintain this level of clinical service as well as teaching. Two developments have been forced on us which I think are relevant to your interest in critical mass. We have divided the medical school into four core, or costing groups, (core in the sense of teaching and clinical service) so that there is a certain equality of suffering with the UGC cuts. But for research it is clear we are having to develop large collaborative groupings across the medical school and marrying university and NHS interests to ensure we can continue with strength in certain areas and these are different from the pair. It is this, perhaps, costing groups I could illustrate to you best. So that is my background. If I may I will go on to some of our research priorities.

Chairman

718. That is very interesting. I would like just to ask one thing, if I may: you mentioned earlier that you had a close collaboration and help from the Regional Health Authority.
A. Yes.

719. It has been said to us on a number of occasions in our evidence that research is being handicapped because the pressure on the National Health Service is such that staff are not available to do research because they have such a load of patient care due to their own cuts. This, in fact, is limiting the amount of resource available to the researchers. Do you find that you can get round that problem here in Trent?
A. It is true that we have an enormous clinical service but, as I shall try to illustrate as I go on, we have had funding for growth for appointments in the university from the Health Authority which has helped us to develop research despite the constraints that we have. Clinical service is enormous but from a low base we are still growing on several fronts. We are on the receiving end of RAWP, as you know.

[Chairman *Contd*]

720. Is that working, as far as you are concerned?

A. Yes, it is. We are still, however 96 or 97 per cent of our target.

Lord Hunter of Newington

721. Chairman, may I say something? I have just suddenly realised that I do not know whether the UGC is giving priority treatment to the new medical centres still. It may be doing this, and the Health Service is doing it through RAWP and in other ways. So what Professor Richmond says is very important: they do not seem to have been so hardly done by as the medical school in which he was educated. In other words, circumstances are different. But it is a very important point this; if the UGC have gone easy on the new medical centres . . . Or is it the Region?

A. The Region. The UGC has been as tough on us as elsewhere. In fact, I think we are getting funding less than average as a university, but the Region, the Health Authority, has been extremely helpful in letting us grow.

Chariman] That is very good, is it not, because in a way, support from the Region can be more important than anything?

Lord Rea

722. Is this in numbers of posts or funding specific research projects you are talking about?

A. The two health authorities, the Region and the District, at present fund, twelve posts full-time and twelve posts part-time, and I shall illustrate in a few moments where we have had some new posts created specifically in research and development areas over the last two years and over the next two years. Whereas we speak of a dual support system, in a Region like this it is really a tripartite support system.

723. The National Health part comprising two of those parts? Are you talking about the usual three, the charities, the UGC and the NHS?

A. No. The term is usually used to imply the UGC input and the Government input to the research councils, the MRC etc., and here I was trying to indicate that we had a third arm, through Health Authority Support.

Baroness Lockwood

724. Are the new posts, as it were, compensatory posts because you were under-resourced previously?

A. The new posts are not compensating for posts that we are losing.

725. But that you never had?

A. Yes. I was going to pick them up as I went along, but we have had in the last three years funding for a chair of radiodiagnosis and for a senior lectureship in radiodiagnosis; part-funding for a chair of general practice; a lectureship in pharmacology and therapeutics with a commitment to looking at the cost-effectiveness of cancer chemotherapy we are about to get chair funding for a chair of cardiac surgery and a senior lectureship in cardiac surgery; this year we have got funding for a senior lectureship for medicine interested in diabetes. They are all areas in which the Health Authority has a specific interest in National Health Service terms but they also have strong academic interests from the university side.

As I said, we have been lately looking at our research strengths as part of the university's academic plan. We have many good small areas, which I hope will prosper; areas like respiratory medicine, gastroenterology, haematology, dermatology and so on, but we have five main multidisciplinary areas which we plan to keep strong and to develop. It is true to say that none of these have been planned. They have evolved for historical reasons round talented individuals, through compatible personalities or geographical proximity of departments, and in one case generous local funding, but most of them are accidental. The main headings in my summary are as follows: clinical and experimental endoirinology, oncology (malignant disease), clinical pharmacology, medical physics and clinical engineering, and lastly community medicine, general practice and the medical care research unit, which I think you have been discussing earlier., These are our five main research strengths, not excluding all the little ones that I mentioned at the beginning. I thought I would give you a quick vignette on three of these, because they help to illustrate or highlight the various problems that we see in a place like Sheffield.

The first one is clinical and experiemental endocrinology. This starts for historical reasons: excellence in thyroid disease goes back to Sir Edward Wayne's time and we have been blessed with good neurosurgeons, who gave us an inroad into pituitary and adrenal disease. The early reasearch was largely clinical research, the pathophysiology of disease and management. It is now much more fundamental: immunology, cell signalling, neural control of the pituitary gland. It was always enjoyed strong MRC and Wellcome Trust support. Good NHS coleagues in the last ten or so years have developed diabetes, particularly insulin delivery and the complications of diabetes, for example microvascular disease. As I mentioned a moment or two ago, the Regional Health Authority are funding this year a senior lectureship with a special interest in diabetes which will be based in my own department but will relate essentially with NHS coleagues to develop this area. Strong emphasis is to be placed on developing community services and on patient education.

Some eight or nine years ago we established a Department of Human Metabolism, and by chance the first Professor was an expert in calcium metabolism, and this Department is now undoubtedly one of the international units in calcium metabolism. The Department has just

[Baroness Lockwood *Contd*]

landed an MRC programme grant for metabolic bone disease. This indicates, one of the problems in this period of retrenchment. It is a department which does hardly any clinical work and hardly any teaching, and it would be vulnerable in this period of UGC cuts if it was not in a bigger grouping. But it accounts for about one third of the PhD's in the medical school and we would be anxious to see it survive, and it can only survive in this big grouping. Also in this large grouping is our professor of paediatrics—a young man—appointed a few years ago, interested in growth hormone and growth factors, and then our professor of obstetrics and gynaecology has a strong interest in reproductive endocrinology, he has obtained substantial funding to look at human infertility.

Chairman

726. Again, from the MRC?

A. No, from charity, from harris-Birthright origins. This whole group is collaborative with the biological sciences, with each other and with the NHS. This is an illustration, I think, of an element of history and fortuitous talent. The human infertility illustration I gave a moment ago perhaps highlights one problem: the money will run out after five years, the professor of obstetrics will have established a clinical service and expertise in *in vitro* fertilisation and it might not be the Regional Health Authority's priority to take it over. I think this keeps recurring where there is a university development that mushrooms; it may cause problems with the Health Authority.

727. Does a unit like that suffer because it has done the job, as you might say, or does it suffer because the leading light has retired and the money is really being attracted by that particular personality and, therefore, when he is not there it tends to be lost?

A. I think there are two aspects. The first is one you mentioned, that the expertise may not continue when he leaves, or he may take the expertise elsewhere. The other point is perhaps the more important: it is that research funding tends to have a five year limit on it and when it runs out and a clinical service has developed round the research it may collapse when the research money comes to an end.

Lord Hunter of Newington

728. Would this transfer to the Health Service not be a good thing? You could argue, and I have argued in the past, that the five year grant proves to be very promising, establishes a clinical service which then should really be taken over, under ideal conditions. Would it be taken over under ideal conditions anyway, by the Health Service?

A. Under ideal conditions it would be taken over but at the moment the success rate of *in vitro* fertilisation with a developing new technique is low and the Health Authority may not think that it is good value for money.

Lord Hunter of Newington] That is at a much earlier stage; it is not really an established clinical practice.

Baroness Lockwood

729. What you are really saying is you need more funding for further research in the area.

A. Yes. It might be that at the end of five years it is going well but not well enough for the Health Authority to feel it has got a place ahead of transplantation and all the other new developments.

Chairman

730. Are the regional funds limited to five years as well, or is that only the MRC funds?

A. From locally organised clinical research, that is usually three years. The MRC tends to be five years and Wellcome Trust tends to be five years.

Baroness Lockwood

731. Is this MRC?

A. No, this is Birthright and Harrris and it may be possible to continue beyond five years but there is difficulty in holding good scientific staff if the money is not secure.

Chairman

732. Your work on metabolic bone disease was closed down, was it not?

A. No, it is strong and active. I said in a period of UGC constraints small departments are vulnerable, particularly if they are not doing much clinical work or teaching, but because it is part of this large grouping in endocrinology I think it can survive. It has by no means closed down, it has just got a five year programme grant from the MRC.

733. Are you still getting MRC money for that?

A. Yes. It is one of our best money-earners in the whole medical school.

734. What about the successor for the Director?

A. We have a professor. We have a University department (of Human Metabolism), a professor and two senior lecturers and an enormous research staff on soft money.

735. Whose responsibility is it to find a successor? These departments are very important to you, are they not?

A. Yes.

736. Is it the dean's job to see that there is somebody coming up behind the existing director or professor or does he take care of it himself or how do you operate, bearing in mind the MRC take the view "If we have not any confidence in the successor, we close it down"?

A. A dean has considerable power for three years but he cannot see much further ahead than that. However we have a Policy Committee in the Faculty, which tries to develop a strategy into the

[Chairman *Contd*]

next five or ten years, and we shall certainly, as a policy, keep this strong little grouping viable, at the expense of other things perhaps.

737. And you would try to either attract a new director or generate one within the department?

A. If the present director goes, there is a very good second-in-command who might succeed him, but we could, I am sure, attract a good person from outside.

Baroness Lockwood

738. Would not a good unit like that develop its talent?

A. It is developing its talent, but it is a very small Department with a small corpus of established staff.

Chairman

739. I presume you get some directors who are excellent people but not so good at bringing other people on and others who combine the two.

A. Yes, that is true.

Lord Hunter of Newington

740. But if you were appointing a new professor you would of course involve the Medical Research Council in that, would you, or at least have somebody attending from the Research Council?

A. We would, yes, because of the heavy MRC funding going into it, out of courtesy.

Chairman

741. Do these units become labelled "centres of excellence" and therefore something of great national value that must be kept going? We have talked about centres of excellence; I am not quite sure what a centre of excellence is.

A. I think all teaching districts in the National Health Service regard themselves as centres of excellence. That is what the term is mostly used for. However from peer review I think we also get acknowledgement of "centres of excellence" within the academic community. The one in Oxford is certainly another in the calcium field. There was one in Leeds, which has now finished. I would have thought the unit here and the one in Oxford, were the two best in the country but, I emphasize that ours is a small department in terms of established staff, large in terms of research staff, and it is the duty of a medical school to try to keep these islands of excellence going.

Lord Hunter of Newington

742. They are not in the main line of teaching.

A. No.

743. They are a little difficult to justify at a faculty meeting.

A. Correct, when the pathologists and the surgeons and the physicians are all grousing about their loss of staff.

Chairman

744. These units which you mention—are there equivalent units elsewhere in the country and do you work closely with them or are these unique in their particular field?

A. No, they are not unique but there must be only three or four medical schools in the country with the strength that we have, in endocrinology, particularly in calcium metabolism and *in vitro* fertilisation in the country. This is my first grouping, a grouping of clinical and experimental endocrinology. They are all interrelated.

745. That is a very important feature, is it not?

A. They are all interdependent to some extent.

746. And should remain like that. They would not be free-standing.

A. That is right.

Baroness Lockwood

747. Do they have common staff, common services and specialists?

A. Several of the departments are juxtaposed and they shared equipment and staff. In one or two areas there are actually joint appointments for example between Medicine and Human Metabolism. The medical school and university complex is very compact and so we are fortunate in that regard.

748. Does this have any impact on the career structure of staff who might be involved across the board?

A. The collaborative element does have an impact. Just to illustrate, one individual began in human metabolism as a research student and is now a non-clinical lecturer in the department of medicine. Another started as a Wellcome Trust senior lecturer in medicine, went to human metabolism and is now a professor of medicine in Manchester. So there is a little tooing and froing. That was my first illustration endocrinology, may I go on to a second one? The grouping had illustrations of historical origin and was very much an interdepartmental activity illustration.

The next one is in which I have had some personal interest myself, which is oncology. This is a grouping which spreads across medicine, pharmacology, pathology, virology and radiotherapy. This grouping has been particulary helped by generous local funding (this is the reason for illustrating it to you) by the Yorkshire Cancer Research Campaign. Without that this local funding, oncology would not be such a strong major element in Sheffield. I think the background is strong radiotheraphy in the city and one of the important features has been a goodwill for change among the radiotherapists. They have tended to be rather protective of their control of malignant disease. (I say this with respect to Lord Hunter, whose son has I know done well in the field). The radiotherapists have been, I believe, a little inhibitory in the development of an overview of malignant disease.

[Baroness Lockwood *Contd*]

Some years ago we obtained long-term funding of a few academic posts by the Yorkshire Cancer Research Campaign, including a chair of virology and suppporting senior lecturer, a lecturerer in medicine in my own department and one in pathology. There was therefore a sort of core of long-term funding. The lectureship in medicine was, infact, the first to be accredited in the whole country for higher training in medical oncology and quite a number of people have passed through this post and gone on to other things a career in oncology or related disciplines. Over the years the YCRC have also funded on average 20 or so on-going research projects, usually of two or three years' duration. Lately we have obtained five year funding to establish a moleculuar biology unit in our department of pathology. We are behind in this as a medical school and this is one of the main growth areas in clinical research. The YCRC have got us off to a start with that. Most recently the Regional Health Authority have agreed to fund a chair appointment in clinical oncology and we have just obtained a YCRC gift of £1 million to endow a department of clinical oncology. So this research grouping is a mixture of university and NHS activity in an important area, but heavy charitable funding has made all this possible. The enterprise now is getting so large that we are proposing to federate all the different research interests in what we are going to call an Institute of Cancer Studies, which is formalising what we are doing already. The university and YCRC will then have an entity to which they can relate to. This has grown enormously in the last 10 years and I see it as an area of strength for some years to come. That is my second illustration.

749. Could I ask, Lord Chairman, do you cooperate with other universities in this area? We were told this morning oncology was one of the development areas, I think in Nottingham. I believe Leeds is also moving into that area. Is there any sort of coordination and cooperation?

A. Depresssingly little, unfortunately. Forty miles between medical schools is like four hundred miles sometimes. We have many medical schools quite near us. There is collaboration with Leeds. Although we are in the NHS Trent Region our main funding comes from the Yorkshire Cancer Research Campaign, so we relate with Leeds in a number of areas.

Lord Hunter of Newington

750. But there are two sides to this, are there not? There is collaboration in the fundamental research aspect of what they are doing and the man that you may know who is doing the same thing is in California or somewhere else in the country, and the second is collaboration in what you might call the R and D side of it, which is a pity that it does not take place, but the more fundamental stuff is the person. One can understand a person doing it may be somewhere else in Britain or the United States but this R and D business seems to be very sad that it is not the practical application of the treatment.

A. The local collaboration with Leeds is strong on a new growth area which is called photodynamic chemotherapy. It is laser treatment of superficial tumours, where Leeds has got a head start and we are collaborating with those in our developments here. On the national side on the research and development side, one of our people here is the Medical Coordinator for what is called the British National Lymphoma Investigation. He coordinates all the trials of chemotherapy in a particular malignant disease called malignant lymphoma that are being administered by BNLI. So that is in the area of research and development nationally. But local collaboration could be stronger. So much depends on personalities and it is up to personalities to do something about it. As I said one of the problems is that the health region is Trent and the money comes from Yorkshire.

Chairman

751. I was rather puzzled by that.

A. Well, historically we are in Yorkshire. We still are in Yorkshire geographically and Yorkshire in terms of funding and so on.

Lord Rea

752. Charity does not stick to any particular Region.

A. Well, this charity sticks to Yorkshire and they do not give any funds to the two other Medical Schools in the Trent Region, Nottingham or Leicester.

Lord Hunter of Newington

753. But Trent is delighted to take the credit!

A. Trent is delighted at the arrangement.

My third vignette was medical physics and clinical engineering. This is an interesting one, one professor, one lecturer, transferred from the Department of Mathematics, and one so-called "new blood" lecturer, and I think 70 NHS staff. It is one of the largest departments of medical physics in the country. It is deeply integrated with many of our medical school research activities. It started with a main interest in nuclear medicine but now has wide interests in cardio-vascular research, medical imaging, physiological measurement of various kinds, signal analysis. I will just take two research interests as examples: the two design and development and failure analysis of artificial heart valves is a major part of their cardio-vascular work, and the Department has been appointed by the DHSS as the United Kingdom centre for evaluating heart valve prostheses. Right at the very beginning I said we were thin on cardiology and that is true—on the clinical service side.

Chairman

754. As a country?

A. No not as a country particularly, but as a city.

[Chairman *Contd*]

I said we had only two medical cardiologists, covering a very large population which is true at the moment, but we are working on that. Again, the region is giving us NHS funding for a chair appointed in cardiac-surgery next year, with a senior lectureship to follow. We are converting a NHS registrarship into a lectureship, so we have there an academic grouping which has a very strong laboratory base from existing NHS sources. So that, I think, will prosper well.

Secondly the department is very strong on imaging which overlaps with radiodiagnosis, and, again, we have just got NHS support (with Kodak) for a chair appointment in radiodiagnosis and a senior lectureship. They will integrate well with medical physics. So this third illustration was meant to show how a major collaborative research area was heavily—almost exclusively—dependent on Health Authority support and funding. It is a strong area.

755. That is very interesting. To what extent is that work dependent upon having the right equipment?

A. Greatly, and a very expensive department it is too.

756. That is funded by the Health Authority?

A. When the department was established, and we got into the new medical school 10 years ago, they got substantial UGC funding to get started, but the replacement of obsolescent equipment and new equipment comes largely through the NHS.

757. This is one of the problems, because that some equipments can develop rather quickly; what is brand new today is out-of-date tomorrow.

A. That is right and they could take the whole treasury budget, for contract maintenance. But they seem to survive.

Baroness Lockwood

758. Presumably your school has escaped the recent UGC cuts; you are not losing any of your departments.

A. No. You asked me earlier about compensating for losses; all these parts that are coming from the Health Authority are developments which are seen to be in the interests of the National Health Service. We have lost posts which have given us trouble in maintaining clinical service and research in some areas. The cuts began in the late seventies when we did not get some of the expansion of staff which we were expecting with the doubling of the medical school. I suppose between 1980 and 1990 there will be something like a 15 per cent cut in UGC funded posts in the medical school. The areas which have suffered so far (and we are off-setting this with income generation and overseas students and so on) are research expertise in vascular disease (which, fortunately, is present elsewhere in the city) and a loss of expertise in clinical immunology and medical microbiology. I think these areas are sad losses in the present era of research. What I hope we can do is to get the Health Authorities (who, as you can see are very good to us) to take over the funding of some of the university posts in the key areas in respect of clinical service. It is not possible for the Dean to lie awake at nights wondering "Who is going to run the special baby care unit if a lectureship is lapsed?" We are deeply involved in this marriage with the NHS.

Baroness Lockwood

759. Is the raising of outside funds to compensate for UGC cuts in any way affecting the direction of your research?

A. I think only in this area of cancer research has it had a major influence in research direction. Elsewhere the research direction has grown around individuals, who have through national competition obtained their funding.

Chairman

760. It seems to me rather interesting, if I got the right impression from what you said, that we have had these cuts, which have done a certain amount of damage from what you say (expertise lost and so forth) but in fact out of it through the initiative which the medical school has taken has come a certain amount of good, particularly much closer working between the medical school and the Regional Health Authority, which I should think is rather a good thing.

A. I think we are very fortunate. It is quite a lot to do, I am sure, with personalities.

761. It is always, is it not?

A. There is enormous goodwill from the health authorities. I think you met our Regional Medical Officer earlier on.

Lord Rea

762. Would the story be very different if this were not a RAWP gaining Region, do you think, the fact that you have been able to get cooperation and help from the Regioanl Health Authority? If it were not a RAWP gainer, the loss of UGC support and charitable support would have been very much worse, would it not?

A. Yes. It is entirely dependent on our being a RAWP gainer that these health authority-funded posts have been possible.

763. It would be very nice to see this sort of thing going on all over the country, and it is nice to hear that it is going on here, but we have been hearing opposite things elsewhere.

A. One of the sad things for somebody like myself is mixing with my London colleagues, who are having a terrible time, as you well know.

Chairman

764. They are at the other end of the system.

A. Yes. We do not want to benefit at their expense, but that is how the redistribution is working.

[Chairman *Contd*]

765. We will have to break off in a moment, I think, because they will be waiting for us for lunch, which I see is scheduled for one. You have the three medical schools here in the Region. Do you operate as three independent units or do you operate as a sort of regional medical complex, if that is the right word?

A. We operate as three separate entities.

766. Is that a good thing? We have seen in London the steps that have been taken to merge medical schools. It has caused a good deal of aggro in the process but they are now saying it has been really rather a good thing because they have got much stronger units as a result of putting them together. Should there be three medical schools in your region or if they were merged into one unit—still existing but merged into one unit—would it not be a stronger set-up?

A. I think geographically we could not contemplate merging.

767. It would be defeated by geography?

A. Yes. Leicester is 70 miles away.

768. Apart from one being in Yorkshire and the others not being in Yorkshire!

A. That is not really a serious issue, I do not think, but if there were any rationalisation it could only be at the pre-clinical level. The clinical schools are so far apart that we could not really do it.

769. There would not really be an awful lot of gain?

A. It is invidious for me to make any remarks on this, but I suppose in hindsight, with the financial constraints that have occurred in the last 10 to 15 years, perhaps to put a third medical school into Trent might have been a mistake. On the other hand it has been an enormous advantage to the development of medical services in to have a new medical school and areas of excellence have developed in Leicester which are repeated nowhere else in the country.

770. You do not try and say one medical school covers certain areas and another covers other areas? You have got to be balanced.

A. I think in the areas that I have illustrated the problems are so large on a population basis that we can afford to be separately pursuing these ends—endocrinology, oncology and medical physics.

771. We are not seeing them but do they have the same excellent relationship with the Regional Authority that you have?

A. Yes, very much so. We meet regionally to liaise with the Health Authority.

I appreciate time is short but I just want to tell you one thing briefly about the level of funding we get. Our chancellor is a working chancellor and he keeps prodding me about——

772. Who is your chancellor?

A. Lord Dainton, who is officiating at a graduation right now. He is very knowledgeable about medical matters.

773. If he had not been doing something else he might have been on this side of the table!

A. Sometime ago Lord Dainton was anxious to know what was happening about research funding in the medical school and I was interested to find out. We got only £350,000 research income 10 years ago, in 1975–76, and in 1985–86 it was £1.7 million not allowing for inflation. That did not include monies coming through NHS treasurers; this was only money we knew about coming through the University Department of Finance. We get on average about £300,000 from the MRC annually and we have, 24 research projects at the moment funded by the MRC. Some, of course, are getting small funding. Otherwise, it is Wellcome Trust, SERC and, as I have indicated, quite a lot from the Yorkshire Cancer Research Campaign. We get about £100,000 to £150,000 from Locally Organised Clinical Research, which you have been discussing earlier, and about the same from the Special Trustees in Sheffield. It was gratifying to see it was as high as that but not anything one can be complacent about. I would have thought of the total funding coming into the Sheffield Medical School was in excess of £2 million a year.

774. That is a remarkable build-up really, is it not?

A. It includes biochemistry, which is a preclinical department, but the rest is, in the clinical medical school. We are not going to have time to talk about the dental school, which is a bit of a worry to us.

775. No, we have got to watch the clock. Perhaps we might finish on one final question: from what you say would we be drawing the right conclusion if we said all seems to be well in Sheffield on medical research?

A. All is never well in biological terms, but I think we are growing in key areas and I think over the next few years it will remain strong, but I do not want to give the impression of being wholly complacent.

776. No, I would not want to imply that, but you obviously have very substantial achievements. Perhaps I can put it the other way round: what would you see as the greatest problem that lies ahead?

A. I think if there is any further reduction of UGC funding for academic posts. Also you will have heard elsewhere that we are greatly troubled by their reductions of MRC funding at junior level and very concerned about their stopping funding intercalated degree years for the under-graduates. That, we feel, is a very sad loss.

777. You would like to see that restored?

A. Very much so. We can possibly pick up a grant or two from charitable sources, but this is

[Chairman *Contd*]

very much the seed corn of future clincial research. We would like to see it restored by the MRC. It was not their decision to stop it but we think it is important to restore it.

778. It is a difficulty. One of the difficulties, I think, in keeping MRC levels up is that the Government say they are increasing funding in accordance with the rate of inflation but, on the other hand, in the medical field the rate of inflation is higher than national statistics, is it not, because of the increased costs of treatment, the increased costs of equipment and one thing and another.

A. We know that in a key area, MRC research studentships have fallen in three years from 250 a year to 180, and the support for these intercalated degrees is falling by 50 per cent. If I were to select the most important point it is that the UGC funding of academic posts in the medical school cannot fall any further.

779. Well, Professor, I think we perhaps ought to draw it to a close at that point. May I thank you very much for coming along and joining us and for the very interesting picture you have presented to us. I think it is most encouraging, if I may say so, to hear what is happening at Sheffield and we found what you have said extremely valuable and interesting.

A. Thank you. I am privileged to be here.

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MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

at

TRENT REGIONAL HEALTH AUTHORITY, SHEFFIELD

Friday 17 July 1987

Dr T D Wall, Dr D A Shapiro, Dr M Fitter and Dr B Rashbass

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FRIDAY 17 JULY 1987

Present:

Hunter of Newington, L.	McFarlane of Llandaff, B.
Kearton, L.	Nelson of Stafford, L. (Chairman)
Lockwood, B.	Rea, L.

Memorandum by the MRC/ESRC Social and Applied Psychology Unit, University of Sheffield

BACKGROUND INFORMATION ON THE MRC/ESRC SOCIAL AND APPLIED PSYCHOLOGY UNIT

Development of the Unit

The Social and Applied Psychology Unit was set up by the Medical Research Council in 1968 to promote the application of psychology in work settings. Our research programme emphasizes fieldwork projects in collaboration with industrial, commercial and public organizations. To complement these approaches, laboratory research into person-computer interaction and clinical studies of psychotherapy for professional and managerial workers have also been undertaken. In recent years we have also devoted substantial effort to investigation of the psychological consequences of unemployment. Our emphasis has been on longitudinal methodologies, focusing throughout on personal, interpersonal and organizational effectiveness and variations in mental health.

These activities require varied expertise. Amongst the staff in the Unit therefore are clinical, cognitive, occupational, organizational and social psychologists. We also attract visitors from British and overseas universities to work on projects associated with our overall programme.

The Unit is based within the Psychology Department of the University of Sheffield, and staff contribute to University teaching and other activities. We take special responsibility for supervision of PhD students working in the Unit's area and we organize and teach an MSc Course in Occupational Psychology. We are also engaged more widely in the scientific community, for example, through professional associations and the editorship of academic journals.

In 1980 the then Social Science Research Council (now the Economic and Social Research Council) assumed joint responsibility with the MRC for the Unit's programme. This concerted sponsorship reflected a growing recognition that many applied psychological questions have a scientific content of importance to both Councils. Funding from the two Research Councils has permitted the Unit to build a stable base of research skills and experience and an effective operational structure. This has made it possible for us to attract and accept additional research contracts, which is particularly significant in the present economic conditions. Approximately a quarter of our annual budget is derived from customers outside the Research Councils, including, in recent years, the Department of Employment, the Department of Health and Social Security, the Department of Trade and Industry, the European Economic Community, IBM (UK) Limited, the Manpower Services Commission and Sheffield City Council.

Psychotherapy with White-Collar Workers

The Unit's work on stress in occupational settings is complemented by research into the efficacy of psychotherapeutic methods tailored to the needs of members of specific occupational groups whose psychological problems are impairing their well-being and effectiveness in employment. This work is grounded in our reviews of the psychotherapy literature, which point up the paradox that different psychotherapeutic methods have very distinct ingredients, yet their outcomes are, with few exceptions, remarkably similar. Our psychotherapy programme aims both to develop effective treatments for defined groups of workers, and to advance theoretical understanding of the mechanisms of change in psychotherapy.

The Unit incorporates a psychological clinic staffed by clinically trained staff, and accepting referrals from general practitioners, psychiatrists and company doctors of clients whose depression and/or anxiety seem to affect their work. We currently specialize in the treatment of white-collar employees. A comparative outcome study has recently been completed, in which 40 professional and managerial employees received eight weekly sessions of each of two treatments in a crossover design. This research combines a rigorous experimental comparison of the outcomes of two established treatments with detailed analysis of the processes and mechanisms of change within each therapeutic approach.

The two treatments were (1) a prescriptive, cognitive-behavioural method combining self-management approaches to anxiety and depression with work-oriented techniques derived from the management training literature, and (2) an exploratory, relationship-oriented, psychodynamic therapy with a specific focus upon personal and relationship difficulties arising in professional and managerial occupations. We have developed manuals defining the procedures used in each treatment. Outcome was measured using an interview comprising systematic psychiatric assessment through the Present State Examination, the Social Adjustment Scale to evaluate role performance at work, at home and in leisure, and a number of questionnaires including the Beck Depression Inventory, a standard symptom checklist (SCL-90), and self-esteem and attributional measures. Independent research assistants administered these assessments at intake, between the two treatment phases, at the end of treatment, and at a three-month follow-up. Overall, it was found that clients made substantial gains during treatment, progressing from a level of distress and difficulty warranting psychiatric help to a state of well-being within the normal range. Improvement was maintained at follow-up. Within this context of overall improvement, a slight advantage of prescriptive over exploratory therapy was found on some measures.

Changes occurring in occupational role functioning over the course of our two treatments has been undertaken. This has led to a detailed characterization of the nature of the occupational problems encountered by our clients. Our clinical material has been examined for evidence of the role of childhood experience in the aetiology of occupational stress, such as may occur when distressing early experiences are replicated during times of occupational change. This work is linked with the study of stress in the medical profession.

Studies of the ingredients and processes of the two therapies are currently being written up. A classification by independent raters of therapists' utterances in transcribed excerpts has shown that therapists act very differently in the two treatments, in accord with the manuals' specifications. A substantial proportion of the recorded sessions have been coded according to a taxonomy of verbal response modes, yielding quantitative indices of the verbal interaction in each encounter. This material has been examined for correlation with measures of a session's impact and of a client's therapeutic gain, as part of our effort to identify the antecedents and mechanisms of change in the two therapies.

Building on the findings from the initial outcome study and on the questions they raised, we are currently engaged in a larger psychotherapy outcome study aimed at comparing the processes and outcomes of Exploratory and Prescriptive methods, to establish more securely the extent and underlying mechanisms of their effectiveness. In addition, we are addressing important cost-effectiveness issues by comparing 8- and 16-session implementations of the two treatments with white-collar employees. Further refinements also include account being taken of different diagnostic categories. This research project is being extended to include clinical psychologists working in the National Health Service. Details of measures are similar to those used in the earlier study but have been enhanced by more effective timing of their presentation and by the introduction of measures of, for example, therapeutic alliance and interpersonal relationships.

The issue of cost-effectiveness is also being addressed in a further study of brief therapy in which the two modes of therapy are implemented in a model comprising two weekly sessions and a third session three months later. This model has important implications for implementation in work settings as well as adopting a quasi-analogue model of research in which the different techniques will be heightened and thereby increase the likelihood of producing differential outcomes. The current two projects will, therefore, enable us to address more effectively the paradox that different psychotherapeutic methods have distinct ingredients but similar outcomes.

INFORMATION TECHNOLOGY IN HEALTH AND WELFARE SERVICES

It is often argued that the introduction of information technology into health or welfare organizations can both improve the effectiveness of the service and reduce labour costs. However, empirical studies of these issues are rare. The Unit's research in this area aims to identify explicit and implicit objectives in the introduction of information technology; to examine workers' and clients' anticipated and actual needs; to document changes in work roles and skill requirements and their consequences for job satisfaction and work stress; to assess whether organizational effectiveness improves and how services to clients are affected; and in particular to examine how communication between service providers and their clients is influenced by information technology.

Recent projects have studied computers in medical settings. The initial focus was on the use of a computer diagnostic aid in out-patient consultations. Although the computer affected doctors' normal method of working, it was not a negative experience for patients, who after exposure to the computer had a more positive attitude than previously to computer use in medicine generally. A second study involved a human factors evaluation of the IBM Sheffield Primary Care System, which provided both consulting room and office facilities. Use in the consultation was found to be somewhat stressful for the doctors, but not for the patients. This study also suggested that the effectiveness of general practice can be improved more by the adoption of new procedures than by the computerization of existing manual arrangements. These issues are being further explored in the two projects described below.

The first project is based on data collected during the IBM study. This included video-recordings of consultations both with and without computer use. Patients were also asked to complete a questionnaire immediately afterwards about their perceptions of, and satisfaction with, the consultation, and their views on the use of the computer. A detailed analysis of this material has been completed in collaboration with Sheffield University Medical School and funded for two years by the Department of Health and Social Security (DHSS). Its aims were to determine the utility and reliability of alternative methods of analyzing doctor-patient communications (for example non-verbal, verbal content, affective content and style); to relate the consultation process to patient perceptions and subsequent affective reactions; and to use the analytic methods developed to determine the computer's effects on doctor-patient communication. By providing detailed information about the effects of computer use during the consultation, the research contributes to future system design and to widely applicable guidelines about how to integrate computer systems into the general practice consultation.

A second project has examined the impact of administrative computer systems in general practice. The computer systems in question provided facilities for the registration of patients, the printing of repeat prescriptions, and the recall of patients for screening, immunization or review. They were installed in 140 general practices in the United Kingdom under the Micros for GPs Scheme sponsored by the Department of Trade and Industry (DTI).

We have carried out a before-and-after evaluation, funded by the DTI and guided by a Project Evaluation Group involving representatives from the medical profession, the DHSS and the DTI. The overall objective was to document how use of the computer system affects the running of a general practice, the services it provides, and the jobs of both staff and doctors. We have also identified those practice characteristics and procedures, and those features of computer systems, which lead to successful implementation and those which detract from it.

Examination of witnesses

Dr T D Wall, Assistant Director, MRC/ESRC Social and Applied Psychology Unit, University of Sheffield; Dr D A Shapiro, Research Worker, MRC/ESRC Social and Applied Psychology Unit, University of Sheffield; Dr M Fitter, Research Worker, MRC/ESRC Social and Applied Psychology Unit, University of Sheffield; and Dr Barbara Rashbass, Principal Medical Officer, Secretary to the Neurosciences and Mental Health Board of the Medical Research Council, called in and examined.

Chairman

780. Would you introduce yourselves?

(Dr Wall) Dr Rashbass is from the Head Office of the Medical Research Council and has particular responsibility for our unit and is Secretary to the Neurosciences Board.

781. Based in London?

(Dr Wall) Yes. Dr David Shapiro is a Senior Scientist in the unit, working in an area which is of particular interest to this Committee. Dr Michael Fitter is similarly a Senior Scientist with the unit. As for myself, I am acting on behalf of Professor Peter Ward, who is unable to be here, and I give you my apologies on his behalf. What I thought I would do is recap on some of the background material I sent down about what we do and ask my two colleagues here to speak very briefly about their areas, and raise one or two points in response to questions which were asked, and then let you fire away. The unit is jointly funded by the Medical Research Council and the Economic and Social Research Council. It also gets some funding from outside bodies. We work in a range of situations, not only medical situations; we work in industry, and I will outline some of the projects we do, so you get some idea of the range of activity we do. What draws it all together is that we are very much an applied unit. Our brief is to actually use psychological knowledge to apply to current problems and to develop our science in the context of application rather than in the laboratory. To give you some idea of our funding as well, round this core funding which we have from the research councils, we attract funding from the DHSS, IBM, Manpower Services Commission, etc.

782. Where is the unit based?

(Dr Wall) Here in Sheffield, in the university in fact. In fact, we are part of the Psychology Department, so we are affiliated in that way. We are very much applied. We collaborate with people in work organisations, so we cannot do our research unless there is somebody who wants a problem solved, so we go out and give advice, and that gives us access to do research, so in a way it is a collaborative sort of relationship. Our current programme covers areas of interest to both funding councils. I will list them here before I ask David and Mike to give you more detail about the particularly relevant ones: cognitive aspects of stress and work load, which is very much on a human performance emphasis; career development in large corporations, examining, for instance, whether it is best for people to become initiated in large organisations by going in-depth in one area or moving

[Chairman *Contd*]

around, getting to know how the organisation works; the effects of coping with unemployment; information technology and its use in manufacturing environments—that is an area I assume you will be less interested in today. The remaining two areas are psychotherapy and the effectiveness of treatment types, which David will talk about, and information technology in the health and welfare services, which Mike will say something on. I will ask Dr Shapiro to tell you in more detail about his area.

(Dr Shapiro) It might be relevant to say that I am a clinical psychologist by training, and that means that, having done a first degree in psychology, I then did a postgraduate professional training as a clinical psychologist. This is a profession which exists in the National Health Service of graduate-trained professional psychologists, and one of the core traditions of this profession is what it calls the scientist practitioner or the applied science model, which is concerned with attempts to integrate clinical practice with a research and development role, so clinical psychologists are trained to see themselves as both scientists and practitioners.

783. How big a body is this?

(Dr Shapiro) It is very small. NHS clinical psychologists total some 2,000 in the whole country, working in an enormous range of Health Service fields, with the elderly, mentally handicapped, mentally ill people, and also in general medicine, so it is a very widely dispersed and quite small profession. As an MRC scientist I, myself, am involved both in the treatment of patients in our research and also in the scientific study of mechanisms and effectiveness of this treatment. We combine both those roles. So that is the scientist and practitioner running side by side in our staff members working in this group. The importance of the work that we do in psychotherapy stems, I think, from the fact that there are widespread neurotic and personality problems that are widespread in the community that cause impaired efficiency for people in their work roles and their home roles and their function as human beings, for which drugs are, at best, a partial solution. In response to this need one might think of 101 or more varieties of psychotherapy that compete for our attention. There are proponents of different methods of psychology treatment, sitting down with patients and helping them to master their problems, or understand their problems. All these different varieties of treatment their proponents say how good they are, but the scientific evidence suggests really that most of these treatments work to some degree for most of the patients that are seen but there is not very much hard evidence about which kinds of treatment are most effective.

784. It must be quite a task to assess the effect of this; it is not an exact science, is it?

(Dr Fitter) We like to make it as exact as we can. That is one of our roles.

785. How exact can you be?

(Dr Fitter) How long is a piece of string? You can certainly make it more exact than it might otherwise be. I think one of the things that the work in our unit in Sheffield has done has been to help other people see how it can be made more scientific than, perhaps, was previously thought. We think that is an important role for us. NHS resources are very scarce in relation to personnel to carry out these treatments. The personnel are clinical psychologists (and as we have already said there are not too many of them), psychiatrists, who are rather more numerous but very expensively trained, and there are medical practitioners who, when they apply psychological treatment, are to some extent leaving some of their medical background behind; it is not primarily a medical activity when they engage in intensive psychological work. Then there are nurses, occupational therapists and other professionals who are more numerous but who have other calls on their time. So psychological treatments are in fact part of the job description, if you like, of a wide range of Health Service professionals, all of whom are under pressure from the demands of their work. In that context (of these large numbers of treatments all claiming to be effective and the problems of trying to study them scientifically) what I see as the present purpose of psychotherapy research is two things: one is to try and compare the processes and outcomes of different methods of treatment to find out which are best for what kinds of patients; and the other is to compare the treatments that differ in the costs associated with their delivery, such as, for example, the length of the treatment—how many sessions people need—and to try and enhance the efficiency of a service within a system that is using psychological treatment.

786. Looking at groups versus individuals?

(Dr Fitter) It might be group versus individual, it might be different levels of professional training on the part of the therapists; there are a number of cost parameters that can be considered in this kind of comparative evaluation. I would like to just briefly mention a current study we are involved with to try and give you a bit of the flavour of this. This is a study based on our own experience and the experience of other work and other centres that try to, really, speed up the process of psychotherapy to make it maximally cost-efficient. We have reason to believe, from literature and from our experience, that it may be possible to achieve limited but worthwhile gains for people on the basis of a simple model that involves two single treatment sessions, separated by a week and then having the patient come back three months later to review their progress. These two weekly sessions are structured in the following way: the first session is concerned with the identification of a central tractable problem for that individual patient and devising a single intervention that the therapist has a reasonable belief has a good chance of being helpful for that person. A week later the patient's experience

[Chairman *Contd*]

making use of that is reviewed with the patient and modifications to the intervention would be suggested then as seems necessary, and similarly at three months later they would meet again to confirm or maybe modify the suggestions that were made in the first and second sessions. The effects of this are measured by tests that are given before and after each session and the changes that occur are compared with a waiting period, where people are waiting to receive this help. In addition, half of the patients are assigned to each of two different treatment methods, so within the two sessions followed by a third session a different technical approach is followed, and these two technical approaches are ones we have been developing in other work on rather longer-term more expensive treatments. The treatment procedures are defined by protocols that tell the therapists how to conduct the sessions, and we assess the contents on videotapes.

787. And at the end of the day are your findings then disseminated through the whole of the medical world?

(Dr Shapiro) Yes. The easy way to disseminate findings is to go to scientific conferences and deliver papers there or to write up in the scientific journals, which are medical-related journals that are read by practitioners. We also in our research were particularly interested in trying to get the ideas that we are implementing in our research across to practitioners, so we have in fact been very influential in setting up a particular scientific and professional grouping called the Society For Psychotherapy Research, which meets every year now. It is an international multidisciplinary group. We set up a British group essentially from our team in Sheffield and bringing other people into that. We are very concerned with dissemination and those meetings are attended by practitioners—psychiatrists, psychologists, social workers and so on. When our treatments reach a certain stage of development where we think they are, as it were, ready to be marketed, at that point we say, "We can now write up for publication the treatment protocols which say, 'This is how to help these people'," and we get a tremendous range of interest from all the Health Service professions in the treatment methods that we are developing.

788. So it is picked up and applied, you would say?

(Dr Shapiro) It is picked up and applied. What happens is that the different elements get picked up at different times. For example, the whole process of how to evaluate what you are doing is very important to Health Service practitioners, and they learn a lot from us because we are in a way setting a standard. We are well-resourced by MRC; we are able to do good quality research in this field and other people can borrow from it—measures we have developed, ideas we have thought of, as well as the treatments themselves, so it disseminates at different levels. It percolates through at a more sophisticated level of the scientist practitioners or the professionals who are interested in research and gradually through them, as it were, it reaches the everyday practice on the ground.

(Dr Wall) If Mike says something now, you will see another way of disseminating research, which is actually disseminated during the process of doing research, which is very much the case of information technology.

(Dr Fitter) I am an organisational psychologist, which means I actually work in public and private sector organisations. My particular focus is the introduction of information technology into those organisations. I am going to talk now about the introduction of information technology into primary health care organisations, because we have done a number of studies looking at the use of computers, in particular in general practice. I really wanted to pick on two aspects. The first is the use of computers in the consulting room. That is when the doctor has a computer on the desk when the patient comes in. The other aspect is the administrative or management schemes.

789. This is the psychological effect of introducing it, not just the mechanics?

(Dr Fitter) Certainly not the mechanics, but more than they psychological effect. I am also trying to look at performance, organisational performance. We are interested in clinical measures of health outcomes and that sort of thing. If I can say a few words, first, about consulting room systems. We have done a number of studies, and I just want to mention them because there is not enough time to go into detail. The first study we did looked at the diagnostic aid which was introduced into an outpatients clinic in local hospitals, and this was an aid that helped diagnose patients who had been referred with dyspepsia by their GP. A particular focus of that study was to look at the psychological impact, the dynamics of the consultation; how it was affected by having a computer there which was being used to take a history and come up with statistical probabilities and alternative outcomes of diagnoses. The techniques we used in that and other studies were to video-tape consultations and to interview patients before and after those consultations. Our main objective was to understand how having a computer intervening into that very personal relationship affected the dynamics of it and affected the patient's satisfaction with the service. To cut a rather long story short, I think the main thing we found was, by and large, patients were not worried about the idea of a computer being used in consultation and, in fact, their general attitude to computers in medicine increased and became more positive as a result of the experience. There was a certain problem with the doctors, that they found it mildly stressful using these systems and we particularly looked at the ways that the doctor used it, and different doctors had different styles of incorporating the computer. This gave us insights into, perhaps, how the system could be designed differently to suit different styles of

[Chairman *Contd*]

doctor/patient interaction. Some doctors are much more directive than others and the particular system we were looking at was more suited to directive doctors who like to manage the consultation in a much more straightforward way. So we came up with some design recommendations as to how the system could be changed.

790. Do you work with the computer software people to produce suitable software for use in general practice?

(Dr Fitter) We have done, yes?

(Dr Wall) We will come back to that point because I want to raise the subject of research funding and the need for collaboration with different disciplines is considerable.

(Dr Fitter) Another similar study was to evaluate a system that was developed by IBM Scientific Research Centre in the United Kingdom. They developed a comprehensive general practice computer system which was partly a consulting room system and partly an administrative system. On the consulting room side it was used for record keeping and for protocols for the management of hypertension, so that for patients who came in regularly for hypertension the computer would, if you like, provide a flow chart for the management of that particular condition, and directed the doctor to do the various checks that needed to be done. Again, we looked at the way that the protocol was used by the doctors and how the computer affected the consultation process itself. We got some additional funding from the DHSS to look in much more detail at the consultation dynamics and to develop some techniques for assessing the quality of communication in consultation.

Baroness Lockwood

791. These were pilot schemes?

(Dr Fitter) Yes, they were both very much so.

792. Are they now being applied more broadly, or are you still working?

(Dr Fitter) The dyspepsia aid is in use in a number of hospitals, developed by Tim De Dombal in Leeds. It is not necessarily used in consulting rooms but it is in use.

793. What about the GPs?

(Dr Fitter) The IBM system was set up very much as a three year experimental project and was discontinued at that point. But the GPs knew that it was going to be discontinued after three years.

(Dr Wall) And replaced it with their own system.

Chairman

794. Is it being applied on any sort of scale in general practice yet?

(Dr Fitter) I was going to come on to what is actually happening on a large scale in general practice. Whereas consulting room systems are, I think, on the horizon still and are only in use mainly in pilot projects, there are quite a substantial number of practices (somewhere between 1,000 and 1,500 in the country at the moment) which have a computer system in use on their premises. These are mainly for administrative purposes, and it is for things like putting a patient register on to the computer so that patients can be identified who need to be called in because they need a screening test, for example, cervical cytology or immunisations. The computer is also used for producing prescriptions for patients who have regular medication. It can actually produce the prescriptions at monthly intervals and help regulate the regularity of that repeat prescription. That particular work was partly funded by the Department of Trade and Industry, because in 1982 they set up the "Micros for GPs" scheme, which was to provide 150 computer systems to general practices, and the GPs paid half the cost and the DTI paid half the cost. We did the evaluation of that scheme and produced a report, which was instrumental in influencing DHSS policy on GP computerisation.

795. Does your research show that in fact improves primary patient care?

(Dr Fitter) It showed that it can, but that the majority of practices were not achieving the potential that was there, and I think that was the most important conclusion that we came to, that there is a difference between the efficacy of putting computers in and the effectiveness of putting computers in.

796. Because the GP himself was not properly trained to use it?

(Dr Fitter) Yes. That is a slight oversimplification, but that is the right track, and so the conclusion we came to was that if you put a system in, if you just give away systems or give them half-price of whatever, then you are not going to get effective use unless you provide something else as well, and what you have to provide is some insight into organisational development and how that computer can be harnessed to improve the effectiveness of the organisation, and the areas we particularly identified were preventive care and audit of practice activities, two areas that the computer can improve and enhance service delivery. We had a small number of practices that were doing that, and we wished to use them as a model for what the others could be achieving.

797. It is the GP himself who has to be properly trained, is it not? It is not a question of employing within the practice a skilled computer operator.

(Dr Fitter) No, that is true. Many practices had a skilled computer operator, but there is a severe limit to how much you can do, because the GP is the owner, the manager.

798. And the source of information.

(Dr Fitter) Yes, and without their commitment and understanding of the process there is very little that one can do.

[Lord Rea *Contd*]

Lord Rea

799. The doctor does not actually have to operate the machine, the physical side of it, but has to have a concept of what it is doing.

(Dr Fitter) That is correct, but more than a concept. They actually have to provide the information and set up the information system so that it will actually enable it to be used effectively.

Baroness Lockwood

800. Has this been followed up in terms of training GPs to do this?

(Dr Fitter) Not as much as I think it should be.

801. Because your work is not being fully utilised in that case, is it?

(Dr Fitter) We did produce this report last year called "A Prescription for Change", of which I have brought some copies. It is basically outlining what we thought were the recommendations for what does need to be done in general practice computing. Some of these recommendations have been taken up and some I think have the usual problem of lack of resources.

(Dr Wall) Can I move on to general points we have identified in the general practice area, to recap on what Mike was saying? One is some areas where computers could be extremely useful and the second is that they are not going to be useful until somebody has sorted out the parallel changes of the organisation in general practice and in the training and funding of that sort of area. If we talk of research more generally, I am speaking not only of these two projects but the sort of work we are in, the applied area. We have one or two constructive things we would like to say, which we hope you will be interested in. One of these is that in our area you are working in an applied setting and research funding tends to be to researchers and not to the users. There are certain areas where if you can fund the users in parallel with the researchers that gives them the time and the resources they need to develop systems, so you are not talking about a system and we will see how it works but a technical system which has a potential and we will see how we can best develop it. That is a different sort of research question, but at the end of the day you have a system which is being developed in the light of experience of a set of objectives. You will not get your average GP saying "Yes, I will take an extra 8 hours off my own time and develop a system, and I will make it do new things". When we work in industrial sectors industry itself puts in the money and it says: "We will give you access to our workforce, we will tell you what our performance records are and we will lend you someone from personnel to help you around." In certain areas they do not have those resources. So I am talking about the sort of funding where, very much as is happening under ALVEY and ESPRIT and one or two other areas, the user is part of the research package and the resourcing of both. He has an investment in it, he has a responsibility to research and then, at the end of the day, you have not only got action as the research goes along but the end product is an example of the action. If you ask me how you apply research, you can apply it as you go along. That is the sort of model we have been using in certain ways for years in the unit—more in some areas than in others, depending on the nature of the research. But it is a sort of opportunity which deserves serious thought. So it would be nice to see a GP ... and as soon as you see one general practitioner, for instance, making a really good useful use; he can demonstrate it and give chapter and verse that "we have not got through 88 per cent of our patients in preventive care of this sort; you have got to 93 per cent and this is how we have done it", I think you will get up-take much quicker than what we seem to do at the moment, which is say it could be useful, then somebody designs a system, they test it and it is five years later before it gets into practice. So we are talking about research and development but I would like to add an extra thing about that: you do not lose the research bit because you are developing.

802. Is there a minimum size of practice at which it pays off, or not necessarily?

(Dr Wall) That, again, I think has got to be established. I would think not. I think with the number of patients they are normally dealing with this sort of resource would be very useful. Can I just give one very attractive example: we have got somebody at the moment who wants to start a prevention centre. He has already got computers from various sources and in a sense he has got to get all his data in by identifying, essentially, the right groups, by age group and by type, and he wants to use information on drug listing and contra-indications and drug costs. To get this going he has actually got to stop being a GP for a year to sort it out.

803. You reckon in 10 years from now every GP will have a computer in his consulting room?

(Dr Wall) I do not think he will, but I think he should do in terms of being effective. I think he should be doing a range of things because of that which at the moment he could not even contemplate doing.

Baroness McFarlane of Llandaff

804. That would have far wider application than just general practice because many of the Health Service professions will be into this type of technology in future.

(Dr Wall) Yes, I think they have got to be there.

(Dr Fitter) One of the things we identified in that report and put down as a marker, almost, is that GP systems should not be developed separately from other primary care systems. There is a danger that the GPs will have their own systems, the Health Visitors will have their own, and the nurses will have their own system, whereas there is a need for some sort of integrated system, which is more important as soon as you start introducing computers.

[Baroness McFarlane of Llandaff *Contd*]

(Dr Wall) And the shared care protocol—if I can use that expression—of the nurses and doctors actually following an agreed set of procedures where it is recorded in a standard format and you do not get people falling through the cracks. Somebody was mentioning over lunch as well, would it not be useful if a doctor could call up on his computer information about beds in hospitals for various sorts of problems he might face across the whole region. After all, if, in fact, it can be done at the moment by tour operators why can the NHS not provide that sort of facility and information?

Chairman

805. What is the position about funding this work, as a matter of interest? Is it funded by the MRC or the National Health Service?

(Dr Fitter) The core funding, certainly, comes from the MRC but the studies I have been talking about have top-up funding from IBM and from the DHSS.

806. But actually installing computers in the surgery, and training the GPs. Is there any funding for that?

(Dr Fitter) Most of that funding at the moment is coming from the private sector, which is very interesting. Within the last three months two initiatives have been launched, both related to pharmaceutical companies, where a deal is put simply: an organisation provide a GP with a free system and in return they want a certain amount of data on prescribing history. That is the way most GP computing is currently being funded.

Lord Rea

807. They are in the situation of deciding whether to bite that particular bait and whether they can actually get a good chew of the worm without getting too badly hooked.

(Dr Wall) That is right. If you are talking about funding more generally, there are some questions being asked, quite rightly, about how we are financing things, and the difficulties in handling different sources of finance and all sorts of disciplines. The answer, I think, is we have the sort of funding which we really need for our sort of work, and most of our work goes over several years and you cannot tell the effect of some of the changes we are introducing inside six months. We have core funding from the Medical Research Council and the Economic and Social Research Council. They have a system where they collaborate in a review of the unit's work, which means that it comes through one channel, which means there is no particular context for our service. It is coordinated in the review procedure which the councils have got together to sort out. So we do not see any major problems with joint funding. In fact, we see it as an advantage, because we can cover a range of areas within psychology, which allows us to handle some of these problems, which vary, as you can imagine, the computer systems, from cognitive economic problems through to organisational design. Our more difficult area is of course the integration of various sources from outside. We have grants coming at the same time from DHSS, IBM, Manpower Services Commission. We handle that by taking them on board when that money allows us to pursue our objectives in ways which otherwise we could not. If it is just doing something for them, the answer is no. If it is gives us access and provides us with ways of pursuing our programme and at the same time helping them, we consider taking that sort of money on board. The multidisciplinary work we have handled really by collaborating across with medical schools, so in some of the practices by IBM we are collaborating with Sheffield Medical School. There is a Sheffield Medical School practitioner, ourselves and IBM, providing a computing medical user and psychological perspectives, and that seems to work quite well. Our major problem nowadays as we see it is that funding for the collaborators is becoming increasingly difficult to get, people who have actually got the money to provide us with our research sites. After all, if we cannot find a user and we cannot find an operational system, we have problems. We spend quite a lot of time helping other people get money so we can collaborate with them on a project, for example software for a computer system, so that is a problem. There is no doubt about it: we see a scarcity of research funds for areas where we think they are relevant. That is indirectly affecting us. Just on a wider point, I have mentioned the need for research which is also geared to practitioners on a wider level. A problem we have is finding people to do the job that we ourselves do. We often find occupational psychologists are not aware even very much of the Health Service's area of research, so you do not find many of those. Nor do you find Health Service-trained people aware much about psychology. We cope with this obviously by training our own, and it is a useful function this unit provides. We do train people, but if they are on a short-term contract you lose research time.

Chairman

808. Are you referring to the difficulty of finding staff who are properly trained in this job or the difficulty of finding somebody who you can talk to who is going to understand what it is you are talking about?

(Dr Wall) Finding staff to carry out long-term applied research in medical settings from a psychological point of view. There are not many psychologists trained in what it is like to work in a health or primary care setting.

809. People that you would have and put onto specific studies . . .

(Dr Wall) Yes. If I am going out with a new project and I want to evalute this, I want somebody who has experience of psychology, of research and of the Health Service.

[Chairman *Contd*]

Baroness Lockwood

810. Are you talking about clinical psychology?

(Dr Wall) No, organisational psychology, not psychology generally. We can get good psychologists and good researchers, but ones who have experience in the sort of area we need, we train ourselves, but if you are funding a lot of short-term research projects, you have a problem with training going on at the same time as the research.

Chairman

811. Do you get any support for training people?

(Dr Wall) We are a research establishment. We do some training in collaboration with the university, but we are research and we train them because they come and do research with us rather than as a formal training.

812. What do they do then?

(Dr Wall) They do move on elsewhere. There is a demand for them.

Lord Rea

813. The people that provide the funds, largely the MRC, are happy for you to use some of these towards training. Am I right?

(Dr Wall) In a sense. I used the word "training" because they have to learn about a new area; there is no formal training in health and welfare services, as such.

Baroness McFarlane of Llandaff

814. You run a MSc occupational psychology course at Sheffield. I wondered to what extent students doing projects in that would do Health Service orientated projects. Or is there a lack of people in the Health Service that see the psychological applications?

(Dr Wall) There are a reasonable proportion who do do Health Service orientated projects. I would say we had a better balance in our programme than most in the sense we are aware, and that is a legitimate and organisational context in which you are being able to do your research, as in industry, for instance. So we do some training within our course in that sense as part of the occupational——

(Dr Rashbass) I wonder if I could comment on the wider problem? There is a general problem which is identified by the MRC as to getting well-trained people to do Health Service research. It is very difficult to get applications of the adequate standard because the MRC thinks there is a shortage of workers who really know how to undertake good Health Service research projects.

Chairman

815. A shortage of teachers, in other words?

(Dr Rashbass) A shortage, actually, of individuals who are well-trained. You are absolutely right, there is a dearth also of good centres, or not enough good centres that can provide the necessary training opportunities. So although in general terms the MRC does not encourage too much training in their establishments because it would divert resources, in the particular area that you are concerned with and we are discussing today it is acknowledged that resources should be devoted to training.

816. That is interesting. Is it an MRC job or is it an ESRC job?

(Dr Rashbass) It is a joint job, as reflected by the joint funding of this particular organisation.

817. I meant, the training is included in the joint project?

(Dr Rashbass) Indeed, yes. In fact, the ESRC have an interest also—a fairly major interest— in Health Service research, although not perhaps as great as the MRC.

Baroness McFarlance of Llandaff

818. I wonder if I could go back, Lord Chairman, to Dr Shapiro and to what extent was the work on testing alternative therapies the kind of model that could be used in research for testing the effectiveness of therapies in other areas. I think there are a whole lot of Health Service therapies that remain untested. Is there a model here that could be followed?

(Dr Shapiro) I am sure there is. Occasionally I bump into this at different levels of abstraction. For example, in the psychotherapy field there has been applied a quantitative approach to summarising whole tracts of literature where you statistically re-analyse data from large numbers of umpirical papers. I have been active in this and published in this field and I have had interest from all sorts of Health Service professions. They bump into my stuff in the psychological journals and they think: "Maybe we could apply that approach to looking at all the studies that are being done on physiotherapy, or anything". Usually they find they have not got many studies, to go on, actually. Certainly the basic logic is similar in many ways (although different in some) from the logic of drug research, evaluating drug treatments. The psychological treatment literature has been very influenced, on the whole, in a positive way (there are some problems) by taking a model from drug research and how to really test critically what are the differences in outcome, if any, between treatments, and what are the best ways of implementing service delivery systems. All those questions are remarkably general across the health care delivery systems.

Chairman

819. This is obviously an important and new field and covers a vast area of problems. You are going to have to speed up your training if you are going to cover all these problems, are you not? Going back to the question just now on the MRC, how many fellowships have been supported?

(Dr Rashbass) The MRC has only been able to afford one special training fellowship in Health Service research. That has just been advertised. In addition there are 40 training fellowships which are available in open competition and if there were

[Chairman *Contd*]

outstandingly good applications from people who wanted to undertake such a training, then they would stand a very good chance. The Wellcome Foundation is also entering into the health services research field and has allocated funds for about five special training fellowships in health services research.

Lord Rea

820. Most of whom will be psychologists or sociologists rather than qualified medical practitioners, or could it be from any of those three or other disciplines?

(Dr Rashbass) It is open as far as the MRC is concerned. I do not know whether the Wellcome are in fact restricting their applications to medically qualified people. The MRC certainly are not, because they acknowledge the multidisciplinary nature of health services research.

Chairman

821. Do you in any way relate that to what demand is going to be? You said earlier as soon as they are trained they are snapped up by somebody or other. There is obviously a large, unfulfilled market here with considerable potential national financial gain.

(Dr Rashbass) Yes.

822. Therefore is this not rather a modest approach?

(Dr Rashbass) It is indeed, but unfortunately it is a question of priorities in research and the general shortage of funds which faces the research councils.

823. Would you say the priority was right here, or is that not a fair question to ask you?

(Dr Rashbass) Perhaps that is a question for you to address to Sir James and Dr Rees.

Baroness Lockwood

824. Is there a link between the training that you are doing and that the MRC is attempting to begin to do?

(Dr Wall) When I said training, in a sense we have to get people into an area so they are capable of doing research. Training is not a formal programme in the sense I was referring to it; it is more an apprenticeship, on-job training. You get somebody who is bright, a good scientist and you say, "What do you know about general practice?" He says, "Nothing", and they say, "Well, you are going to have to learn because you are in the project". If you go out and specify in an advertisement that you want a chap with this area of psychological competence with this area of knowledge, there is nobody around. That is what I am saying. You have to relinquish one criteria and do another. If there was a group of people out there it would help our research dramatically, because we could start more quickly. That is the general point I was raising. I do think we have become increasingly aware that you need two sorts of research going on; the basic research so that you generate the knowledge. There is an awful lot of knowledge that people are increasingly frustrated they are not delivering. This is where a lot of work could be very effective, on the delivery of care basically, making sure it gets to the people who need it.

Lord Rea

825. Have I got this wrong: did I understand you to say you are actually finding it difficult to get groups of users where you can study implementation of better practice?

(Dr Fitter) Yes. I think, to give you an example, there is no shortage of practices which would want to participate in research with us. What I would like to do though is to get some resources to enable them to do that.

Chairman

826. Some people who would understand what you are talking about?

(Dr Fitter) More than that, I think—so that perhaps one of the GPs could perhaps put some time into becoming partly a researcher himself or there could be a research assistant in the practice to actually monitor what was going on. That would be funded perhaps by the Regional Health Authority or DHSS.

Lord Rea

827. In other words, there needs to be somebody in a position to mobilise funds to support such people who realise it is important to fight for the allocation of money?

(Dr Fitter) Yes, and we actually help people in applying for funds.

828. If that were the case and there were people who saw that your way of approaching things was really important, do you think there would be quite a considerable mushrooming of this type of work; if in fact there was adequate support coming to it from various funding bodies?

(Dr Fitter) I would have thought so. Speaking for GPs, which is the group I have most contact with, I would say yes, because a lot of them would like to have a research element in their work.

829. I can see hospital practitioners actually being rather hostile to this type of approach. Though, I agree, there are some GPs now who are wanting to do this I am not quite sure about the majority. I am not quite sure how many clinicians there are in hospitals who want to examine the way in which their clinical practice is carried out.

(Dr Fitter) I would hope there were some and if there were not I would think they need encouraging because I think that is a model of a good way of developing services; talking to practitioners and encouraging them to try and improve the services they are providing.

830. How do you think you can put carrots in front of practitioners of one kind or another to encourage them to be looked at?

(Dr Wall) Does it not depend on what sort of

[Lord Rea *Contd*]

question you are trying to answer? If you are trying to say: "What could I possibly achieve if I were to have a motivated practice that is doing well with this sort of system?", then you do not need to worry about something they are using, you ask how well you can make this work to achieve certain objectives. So you can do that in a volunteer sort of organisation and you set a standard of what is achievable. If you are asking the question, as in this case, which I think you are, which is "How can I decide something that everybody will want to pick up", I think that is a very different question. I think it is more difficult to answer. I think at this stage in the development of computing in primary care you have got to answer what is it good for and what is it bad for, and how can we make it more effective.

831. One of the things is "How are my patients going to benefit from this?"
(Dr Wall) Absolutely.

832. Doctors might say, "We are going to put a lot of work in this; what is in it—efficiency for what?"
(Dr Wall) Indeed the research must specify that. I do not think it should be funded unless they add the purpose for using it and demonstrating, on the basis of the nature of the system, why that system would help to meet that objective.

Chairman

833. What is the benefit? Is the benefit a better diagnosis, a quicker through-put of patients, or what?
(Dr Fitter) I think the area of greatest benefit we have identified so far is using the computer to identify "at risk" groups, screen them, immunise them in whatever the preventative measure is, to be able to assess it when you have done it, to know how well you have done it and to follow up the people who need to be followed up.

834. My experience of applied computers is that the biggest gain is that in order to get the computer to work you have got to understand what you are doing yourself.
(Dr Wall) We have said that as well.
(Dr Fitter) As an organisation, yes, very much so.

835. You have to clarify your own mind otherwise the computer does not understand what you are doing!
(Dr Wall) To some extent. Exactly what we have been saying is that, in fact, we would like to see the needs and objectives of the general practitioner achieved first and then ask the question about how the computer can support that, rather than the information technology leading the way and then asking what are you going to do with it? This is, in fact, the message we have been saying, because what has happened, I think (and I think it is fair to say) is people have said they have got to make use of this modern technology; they are delivering the technology and they have not asked the question "What are they going to use it for?"

Lord Rea

836. From what I gather, it is in "out-reach" in general practice where it seems to be the most effective, but I am not sure that efficiency in other ways might not be brought in in hospital practice.
(Dr Wall) Certainly our experience is very much in the general practice field. We have had practices, for instance, where they have been putting all their information on drugs, contra-indications and cost of drugs so they can monitor as they go along, monitor their own activity, saying "We are spending too much on this sort". A range of activities like that. They have got different styles of letter so that they can call in people depending on hospital test results, whilst not alarming those who should not be alarmed, and so on and so forth. You can see the efficiency gains on just the logic of the system but you have got to ask about efficiency costs as well.

Baroness McFarlane of Llandaff] I am not sure if you wanted to go on in this train but I wanted to change the direction slightly. I was going to say we have talked a lot about information technology and I wondered if you could give us the kind of picture of the sort of field of occupational psychology that could usefully be applied in the field of Health Service research. I am thinking of things like ergonomic studies, in my own field of nursing; the way in which equipment is used and things of that kind, but also the development of staff roles and job satisfaction in different kinds of roles and whether you have got something more to offer us as well as this information technology field.

837. Could I add my question to that, because it can perhaps be fitted in with the answer? I was going to ask on what you were saying about psychotherapy and dealing with questions of stress to what extent would that apply in, say, the nursing profession, where stress is a very important question?
(Dr Fitter) Could I make a point on that? One study that we completed last year was a study of stress in intensive care units as experienced by nurses, and that was related to technology because we are particularly interested in the effect of all the equipment that was in use in intensive care and how it affected the nurses and the patients. That is an area that one can obviously look at, stress and the effect of organisation.
(Dr Wall) The more general answer is that where you do an applied study you cannot avoid, when you are actually changing people's lives, their work roles, developing things with them, as we have been in the National Health Service, all the areas from literally keyboard and screen design through to one of the most important areas in general practice, that is, software, what data do you collect and how, and what does it mean for somebody's job, and what do they end up doing as a result of this? Does it mean there is somebody in the background whose job is eight hours in front of a screen just typing in numbers or is it integrated with their job so that they routinely collect certain sorts of information?

[Lord Rea *Contd*]

The general answer—and it has to be a general answer given the time—is that there is a whole range of areas in terms of design of people's jobs, in terms of selection of the sorts of people you get, in terms of design of the system, which have to be looked at at the same time, and you can get the world's best system which people refuse to use, which is not much use at all.

838. Have you looked at the application of your psychotherapy work to the workers in the National Health Service itself, particularly nurses?

(Dr Shapiro) Certainly quite a substantial proportion of the patients we see are Health Service professionals, and we have also done related research——

839. Health Service patients or workers?

(Dr Shapiro) Health Service professionals, yes, and we have also done related studies of the sources of stress in medical students and young doctors. There is another team in the unit I am not directly involved with which has done work with the nursing staff of a special hospital, looking at sorts of stress, organisational and personal factors. It is a very substantial area, which has been well-represented in our unit over the years, and indeed, Health Service professionals we do see as a very important group, and there are a number of factors in working in the Health Service which are actually convenient for us as psychologists because of the kind of organisational factors and job factors that we can learn quite a lot about, but also clearly these are occupational groups that have got some very severe problems: work load, organisational issues. There are relations between the organisational issues and the intimately personal areas of people's lives, like, for example, if you are looking at nurses, and looking at the young nurses in training and shortly afterwards, given huge amounts of responsibility, faced with a structure where the people in charge of them may adopt in some ways a parental role with respect of them and their anxieties about on the one hand all the responsibility that they have, alone at night with a large number of patients they are caring for; on the other hand anxieties about are they going to get into trouble if they do things wrong. All these kind of things are a very rich source of research, but also a very important area practically, and work in that field I think does lead us to ideas about how stress management could be more effectively incorporated into the training of health professionals; that there could be preventive work done in the training of medical students, for example, that would make it less likely that people would end up in quite severe difficulties. The suicide rate and the drug abuse rates and so on are very important. In fact, we got into this area in Sheffield because the local junior doctors approached us. They had had two or three suicides amongst medical students and housemen and they got very agitated about this, so we did a whole study. We have had a couple of papers in the BMJ on it.

Baroness McFarlane of Llandaff

840. And the funding for this is part of the funding of the unit?

(Dr Wall) Yes. This was done out of the core unit funds with the collaboration of three medical schools, but they did not put any money into it.

Chairman

841. I am afraid we will have to draw this session to a close. It is very interesting stuff. I have one final question: are you the only unit in this country that is doing this work?

(Dr Wall) There are similar units, like the Applied Psychology Unit in Cambridge, but they have a different purpose and a different emphasis in their work. We are unique in the sense of being an applied social pscyhology unit.

842. What area do they cover?

(Dr Wall) They are much more towards the ergonomic and the system design end of the scale.

(Dr Shapiro) And pure cognitive psychology is their kind of defining focus, so it is really cognitive process, cognitive function, application of studies of human cognition in various settings: industrial, organisational, and so forth.

(Dr Wall) And it might be to understand the programme or interface to solving problems.

Baroness McFarlane of Llandaff

843. Is the Birkbeck unit one?

(Dr Wall) If they are we are not fantastically aware of it. They have had problems recently, I believe.

Baroness Lockwood

844. They are still a very good department.

(Dr Wall) Yes, it is still a very good department.

Chairman

845. May I conclude by thanking you very much for giving up your time to come and talk to us this afternoon. It has been extremely interesting; it is a field which we have not touched on so far, so it has been particularly interesting to hear from you. Thank you.

(Dr Fitter) We are grateful for the opportunity.

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HOUSE OF LORDS SESSION 1987–88

MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

at

KING EDWARD'S HOSPITAL FUND FOR LONDON

Thursday 23 July 1987

Mr Robert Maxwell

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THURSDAY 23 JULY 1987

Present:

Adrian, L.	McFarlane of Llandaff, B.
Erroll of Hale, L.	Nelson of Stafford, L. (Chairman)
Flowers, L.	Perry of Walton, L.
Hunter of Newington, L.	Rea, L.
Kearton, L.	Smith, L.
Lockwood, B.	Taylor of Blackburn, L.

Memorandum by the King Edward's Hospital Fund for London

I am responding on behalf of the King's Fund to your letter of 3 March. My colleague, Gordon Best, who is Director of the King's Fund College, has passed your letter on to me as Chief Executive of the Fund itself. It may well be that he and others will have thoughts arising from this response, since I have not been sufficiently well organised to coordinate the response from the various parts of our quite complex organisation. Would you please therefore take this as essentially a personal response from me as Chief Executive, although I think that most of what I have to say would command general support from the Fund as a whole.

By way of background, I enclose some material about the Fund, namely a brief leaflet about its background, guidance to those who apply for grants, an annual report (the 1986 report is in the course of preparation) and a short brochure about the Fund's past and future. I am sure that the Committee as a whole will not want to be burdened with this information, but it may help you.

Each year we pay out somewhere between £1.5 and £2 million by way of grants. Some of these are for health services research although our main emphasis is at the development/pilot project end of the R&D spectrum. In addition we have founded recently the King's Fund Institute, whose mission is policy analysis, in the no man's land between health services research and policy. To complicate matters still further, the King's Fund Centre is concerned with assessing and changing practice in health care, and this gives it a number of research related interests. As a matter of policy, we do not fund biomedical research, on the grounds that many other organisations are better placed to do this. In research terms, therefore, our emphasis is on health services research, but even here we tend to avoid large or long term studies, because we simply do not have the money to support them. Moreover we take the view that we can contribute more in ways other than supporting the search for new knowledge for its own sake. Occasionally we do support quite a large study, where we believe the impact on practice may be direct and large—a recent example (jointly funded with Nuffield PHT) is the Confidential Enquiry into Perioperative Deaths.

I will structure my response in relation to your nine specific questions, although I have more to say about some of them than about others.

(a) PRIORITIES

As I see it, there are three main influences on the way that medical research priorities are set. The first is priority setting *within* the major research budgets. For example the MRC, the DHSS, the pharmaceutical companies and the main medical research charities all have more or less systematic ways in which they select what each thinks is important. I am sure this is done with conscientiousness and thoroughness. The second influence is priority setting among the major institutions, according to the relative size of their budgets. On the whole, this is not done in any systematic way, nor perhaps could it be, except in so far as the ultimate source is governmental funding or there is mutual agreement among several autonomous institutions. A third influence is the interests and skills of researchers. It takes a long time to develop good research in a relatively new field, because there simply is no reservoir of people or good proposals on which to draw.

You ask how far research priorities reflect the particular needs of the NHS, and the health needs of the nation. I think the answer has to be "inadequately". Post the Rothschild report, the DHSS has tried to act as the customer in this sense, guiding research activity to where it will do most good, but the results have been disappointing. I do not myself believe in stronger bureaucratic direction of research, but I do believe in trying to clarify where research would make an impact and offering financial inducements in those areas.

(b) BALANCE

There may be imbalances within biomedical research, but the particular problem that I would call to your attention is the weakness of health services research relative to biomedical research. This is of long standing in the United Kingdom, and probably in many other countries. The reasons are quite complex, linking back to some of what I have already said about the ways in which priorities are set. There is simply no critical mass of skills, people and funding in health services research and evaluation. Indeed there is a vicious circle in which the main research funding bodies are likely to argue that the problem is not one of funds, but lack of good proposals and good researchers, and to some extent this is true.

Another legitimate comment is that health services research is too loose a definition to be useful. My own definition would include some randomised control trials, in which Britain has a relatively strong tradition but should do more. It would also include other methods of enquiry into the effectiveness of new and existing medical technologies. Here the tradition is weak and much more needs to be done as indicated by Professor Bryan Jennett's 1983 Rock Carling monograph *High Technology Medicine: Benefits and Burdens* (Nuffield PHT 1982). Only quite a small proportion of medical practice has been fully and systematically evaluated. Much of the rest still rests on past practice, unproven assumptions and hope that intervention is better than non-intervention. What is done in evaluation is ad hoc, with no systematic policy or strengthen national performance in this area, and we strongly support that.

There is also a lack of what I would call operational research in the sense in which that term was originally used—not so much the development of mathematical modelling techniques, but examining the effectiveness and efficiency with which large programmes are run. This is the way in which OR originally developed during the Second World War. There remains a lot of room for systematic and imaginative study of how the NHS can be run better.

(c) CHANGE

Priorities in medical research do, I am sure, adapt to changing needs, but often do so rather slowly and narrowly. AIDS would be an instance where the response has been quite rapid, and one can see why. The need is obvious, there can be a lot of money in it for the pharmaceutical companies if they make a breakthrough, and the government is also willing to invest substantially. In a case like this, the speed of response is limited mainly by the intractability of the questions to be researched and the time required to develop a critical mass of people and skills. Where the need is less dramatic, or there is no money in it for the private sector, or government is less determined, the speed of response is bound to be much slower.

More broadly, medical research has not caught up with an era in which the key problems are as much to do with tragic choices in the use of limited resources, as they are to do with pure science.

(d) THE INFLUENCE OF INSTITUTIONS

As my comments under (a) above indicate, priorities in medical research are very greatly influenced by institutional structures. We have much to be proud of in medical research in Britain, and part of the credit belongs with organisations like the MRC and the main medical research charities. But some of the weaknesses also stem from our institutional arrangements, because institutions work best within their own boundaries and traditions. For example, the ESRC has never been anything like so strong or so well funded by the MRC, and this is one reason why health services research has failed to prosper. Nor have we updated our institutional arrangements and their concept of their respective missions to take account of changing needs, such as the need to illuminate tragic choices.

(e) DISSEMINATION OF RESULTS

In a narrow sense, results may be perfectly adequately disseminated. The scientific journals on the whole do an excellent job in this field. Dissemination is also about ways in which practice changes or fails to change, which links to (g) below.

(f) DUPLICATION OF EFFORT

I am inclined to think that the question is mistaken in implying that duplication is unnecessary. In the fields where research is strong, such as cancer research, I suspect that some duplication and competition are thoroughly healthy. In short, I do not see duplication as a major problem. Much more important, in my opinion, is how a critical mass of effort can be nurtured where it does not exist.

(g) IMPROVEMENTS IN PRACTICE

I have phrased this a little more broadly than your question, because ultimately the most important link is to health status. How far are research results reflected in changes in health status? The answer is much more problematic than in relation to question (e) above. In particular, I would call to your attention my colleague Barbara Stocking's book *Initiative and Inertia—Case Studies in the NHS* (published by Nuffield Provincial Hospitals Trust, 1985). Barbara points out that some new knowledge gets transmitted into changes in practice quickly, but that this often does not happen, even after long intervals of time. An example would be day surgery, which has often been rather slow to spread in the NHS. The reasons for the variations are complex, having to do with lack of incentives for change, lack of energy and championship and the fact that this is not the main business of the researchers, nor of the research agencies. This territory of trying to translate knowledge and idea into changes in practice is very much a heartland of the King's

Fund's interests and I am sure that several of my colleagues would be keen to talk to you about it, if that would be helpful at any stage.

(h) TRAINING

The main unmet need, as I see it, is to develop a cadre of competent health services researchers and of multi-disciplinary units, and to upgrade the neglected field of evaluation. The point about multi-disciplinary units is important because some of the research that needs to be done can only be designed and undertaken competently when a range of different disciplines are brought together on equal terms. Only rarely has this been achieved in Britain. In the 1960s and early 1970s, the DHSS (earlier the Ministry of Health) made brave and imaginative moves to set up units of this kind. To some extent we have slid backwards since then.

Perhaps I could also express some concern about the way in which young hospital doctors are channelled into limited periods of medical research to improve their CVs and to carry them through what amount almost to waiting periods in their careers. Often the experience of medical research may be good for them, but I doubt whether that is always the case (if they are not particularly well managed), and I very much doubt whether it is a good use of research monies.

(i) SPECIFIC CHANGES IN ORGANISING OR FUNDING

The main plea that I would make—and it will not be universally popular—would be for a new health services research council with an adequate budget. If a new council is not feasible then we must find another way, but history suggests that we need to be bold. Among its immediate task would be to stimulate work on assessing the effectiveness of medical technologies. Among other things a new council will need the long term vision to develop new skills and new units.

If I or my colleagues can be of further help to the Committee, please do not hestitate to let us know.

30 April 1987

Examination of witness

Mr ROBERT MAXWELL, King Edward's Hospital Fund for London, called in and examined.

Chairman

846. Mr Maxwell, may I extend to you a very warm welcome. It is very good of you to spare the time to come along and meet us this afternoon. The Members of the Committee are all labelled round the table, and I am sure that many of them you know already. I would also like to thank you for the very useful paper you submitted to us which is extremely helpful to us and directs our attention to your views on the questions which we have raised. Before we begin the questioning on the paper, is there anything you would like to add to it?

A. Thank you, Lord Nelson. Perhaps I could just say briefly where I come from, as it were, since that may be of some interest to Members, and they say one thing by way of introduction. As far as where I come from is concerned, as I think you know, my job is to run the King's Fund whose task it is to try to promote standards of health care. Its role in research funding is a minor part of that work. Before that, my background was in management and finance, with some experience of health service research, particularly in the international field. By chance, it may be of some interest to the Committee to know that I was involved in the reorganisation of the Department of Health itself in the early seventies post-Rothschild, particularly the organisational arrangements at that time for handling the Department's considerable research programme, so I have taken some interest in developments since, although I have not been closely involved in the way the Department operates. The only other thing to say by way of introduction is simply that I do believe the subject of health services research is one of great importance, and its potential value is widely under-estimated at the moment both in the health service and outside. It is clear, as one looks at the future of medical care, that expanding the scientific base of knowledge is not the biggest problem. This country has an excellent record in medical research, and I would not want to see that put at risk, but at the same time the future of health care is more to do with how knowledge is applied than with knowledge for its own sake, and it seems to me that underlines the need for a good, analytical capability as regards the way health services are run and health care is delivered. In my view, we are nowhere near having the capacity to do that.

847. I think that is a very pertinent introduction and it directs our attention to your views and your background, because that is not only the view of the Fund but, as you might say, your general view with your background and experience of the organisation of the health service.

A. Yes.

848. If I might take it on from there and start the questioning, I would like to start from the back end of your report, if I may, namely, your plea for a new health service research council with an adequate budget. Of course, as you will be well aware, it is not easy to get the present government

[Chairman *Contd*]

either to introduce a new council or to increase budgets, so the case has to be very strong on both counts. I wonder if you would like to develop your thinking on this basic issue.

A. Going on from what I said before, there is a vicious circle in the field of health service research where the Medical Research Council, which is the main body responsible other than the Department of Health itself, does have a health services research committee (I am not sure if that is the right term) which says it will fund applications which are of a high enough standard relative to all the other applications which press on the Medical Research Council, and that has been the position for some considerable time; I do not think the position will ever change of itself. I do not think the Medical Research Council, whose priorities are strong science research and who must have a lot of loyalty to maintaining what is already there, is ever going to be a strong and imaginative proponent of this rather new, difficult and dangerous field. I do not see it happening, and it certainly has not happened yet, despite the efforts of people both inside and outside the Medical Research Council to get it to happen.

849. If the MRC is to be primarily reactive to proposals put to it, and if in fact the expertise does not exist, you are not going to get many proposals which will commend themselves to the MRC?

A. Exactly so.

Lord Flowers

850. We had a problem in the Science Research Council many years ago because engineering was not, as we thought, being properly treated. We sought a solution to it by creating within it an engineering board run by engineers and industrialists. Gradually, the situation improved, I do not see why the same thing could not be done in the MRC. May I put an alternative suggestion, because I would be interested in hearing Mr Maxwell's reaction to both. The suggestion is that one takes the Government's attitude towards industry as a whole and says that if there are processes required to improve the efficiency of industry—in this case hospitals—then it is industry's job—the NHS's job—to do the research; in other words, "Research into the efficiency of your own organisation is your affair, chum". That is the Government's attitude, so why should not the Department of Health itself fund health service research as a contribution to its own efficiency?

A. That is perfectly fair, Lord Flowers. That, too, has been quite a long-standing answer to this question. As I said in my letter, there was a period in the late sixties when the Department of Health was very imaginative in the way it promoted and was willing to fund the development of this kind of capability. That period has ended and I do not see it coming back. Going to the industrial analogy, I think the problem is that the business of running the health service is very fragmented amongst a lot of different authorities. The Department of Health is only partly to do with the running of the NHS, and no government department runs a public service very well, if I may say so. It also has the job of trying to formulate health policy and putting the Government's point of view. I do not think that is a particularly good framework for the business of commissioning research. It tends to make research commissions very short-term in focus and the attitude to finance somewhat one-sided: that is, the Department, in its prime role of being a staff to Ministers, is interested in good news and not in bad news. That is not a very healthy attitude for the commissioning of health service research, the findings of which may be quite unpleasant.

Lord Hunter of Newington

851. Do you think it is linked with the handing-back of Rothschild funds which were given to the Department to the Medical Research Council?

A. I think that is all part of the background, Lord Hunter. The arrangements post-Rothschild have never been terribly happy in the Department of Health, but the bargain as I understand it in the handing-back was that the MRC would taken on board Health Service research, and it really has not done so. Returning, Lord Flowers, to your point about an engineering board, I think that is quite like what the MRC has tried to do and will go on trying to do, but this is not a separate field in the way engineering is separate in the field. It is not both a professional discipline and a field of work, it is a field of work which relates to a whole lot of professional disciplines. It is very difficult to find a body which will be both sufficiently objective and sufficiently sympathetic.

Chairman

852. It is also a fact, is it not, that MRC apportions its funds according to the merits of the various applications which come to it, and it does not hypothecate a sum of money for Health Service research. Therefore, when it is under pressure from excellent proposals from other fields, it tends to get squeezed out altogether.

A. I think that is true. Figures have been mentioned for a Health Service research body or committee, but it is a quite small amount of that which is hypothecated, if indeed any is.

853. If it was in fact in the NHS rather than MRC, would that make it clearer that there is a sum of money for Health Service research?

A. I think it would. There is a problem, going back to what Lord Flowers said, in that there is really no parent body for the NHS, it is either the health authorities which are many and various or the Department of Health for which other roles are actually in the end more important. I think you have to create something to be the imaginative commissioner of this work.

854. That leads on to another question which we would like to clarify, and that is should Health Service research be done in the regions and nearer

[Chairman *Contd*]

the action, as you might say, rather than from an office in Whitehall?

A. Yes, you could even say in the districts.

855. Yes, even the districts.

A. There is quite an interesting move in the Harrow Health Authority, which has the clinical research unit of Northwick Park, of an alliance between the two on Health Service research. We have a proposal from the combined group looking to us, the King's Fund, to strengthen that venture. We may do so but it is obviously one very small example where you have a health authority which is prepared to go that sort of route, alongside a unit which is unique in the country, and an outside agency like us which may be willing to fund it. Even at the regional level I think the number of regions which would take this in board would be only a few, and you would be back in the problem of how does that lead to the creation of a national resource, if that is what we need.

Lord Perry of Walton] Could I ask about the nature of Health Service research? It seems to me from all I can see that it ranges from research and efficiency in the NHS, which would cover the administration and the accounting and things of relatively mundane nature and personnel questions, and it goes all the way up through possible evaluation of methods of caring (and by that I do not mean treatment but how you handle a caring situation in the primary and secondary senses), and then it goes as far as clinical trials. When you get there you are in a very grey area, because here you are in an area for which the Medical Research Council is already quite definitely responsible. It seems to me, one of the difficulties in talking about this and a special new research council is to define exactly what we mean by this term. At one end of the spectrum authorities get very frightened about taking away from the current control and giving it to somebody else.

Chairman

856. I think, Mr Maxwell, you have some fairly clear ideas as to what you understand Health Service research is?

A. I accept the validity of Lord Perry's questions, because the term does cover a wide field, and there are many difficulties in what Health Service research is and might be. The boundary issue will certainly arise. For me clinical controlled trials would be on the MRC side of the boundary, without any doubt. That does not necessarily mean all control trials would be on that side, and a big research study in the United States on health insurance arrangements by the Rand Corporation tried to look at what is the effect of charging patients for the use of services and what is the effect of a Health Maintenance Organisation compared with fees for the service. That was done on the basis of trials, but was to my mind Health Service research. The boundary does not necessarily come on the basis of method. It is fairly clear where clinical research in the conventional sense ends. While accepting the fact that is not absolutely precise, some ambiguity might not matter. If there is a territory that both bodies feel might be theirs, that may be a better position than having nobody wanting the main ground.

Baroness Lockwood

857. On page 3 in the first paragraph you are referring to quite a small proportion of medical practice as being fully and systematically evaluated, and you go on about that. Would that come within your National Health Service research council? That does also seem to span the two areas.

A. That is certainly a good question too, Lady Lockwood. I think this is a related question which needs to be addressed. Whatever you decide and whatever the government decides about a Health Service research council, I think all countries are going to face up to the need for evaluation of medical technology in some sense. Some countries may feel what really matters is evaluating new things, and others may feel (and I would feel, for what it is worth) that evaluation of old technologies is as important as evaluation for new ones. Discussions have been going on, as I understand it, for some time now, for a year or two, involving the Department of Health and MRC about this territory and nobody is yet doing anything. I think the first question is, do people agree that there needs to be a major national effort on the evaluation of medical technologies and, if so, how do you define medical technologies for this purpose and who is going to do it. Either it has to be taken firmly on board by one of the existing bodies, or I would give it to the new body.

Lord Adrian

858. You used an interesting adjective to describe Health Service research, you called it a "dangerous field", and I wonder whether you could define some of the dangers in the field. One wonders, are they dangers that prevent people from treading into it?

A. I think the dangers are partly that the issues can be political, not necesarily party political but they can also be inter-professional political, and some of the questions can be ones where the answers are not going to please some of the main groups concerned because they may challenge professional assumptions. I think the second problem is that there really is not a proven scientific method. There are units which have a good track record, like Professor Butterfield's unit and Professor Holland's unit, but if you ask where are the Health Service researchers, they come from a variety of different disciplines, including sociology, social sciences and economics, which hard scientists can be a bit sniffy about. Given the nature of the problems, I think it is inevitable that one will have to use those kinds of methods to get after them.

Lord Kearton

859. I am not quite sure whether your basic feeling is that the NHS is too expensive or that the

[Lord Kearton *Contd*]

money being spent now is being wastefully spent, or whether there are areas where by better practices you could improve the NHS albeit at greater expense. I have the feeling you take the view that a lot of money is being wasted?

A. I think there is waste, as there is in most human activities, and perhaps too big a bureaucracy. Nevertheless, there is in my view no doubt that the NHS gives the country quite exceptional value for money relative to overseas. But every country—and most of all us, because we are no longer very wealthy—is going to be faced with the fact that it could do far more in medical care than it has the resources to do. Therefore, we are in the business of having to make difficult choices in terms of what methods we adopt and what treatments we adopt and what (as a result of our choices) will have to remain untreated. In those circumstances, having the means of making better choices is what we are after. I do not think the NHS is inefficient. Of course, efficiency can be improved, but the basic questions are about effectiveness and priorities.

860. What were the results of the monograph. "High Technology Medicine: Benefits and Burdens"?

A. Bryan Jennett pleaded strongly for some limitation on the introduction of high technology medicine and for some form of National Council for Technology Assessment.

861. The implication being that high technology medicine is not worth the expense?

A. Yes. Not always.[1]

Lord Rea

862. It might be quite useful if we could hear an account of the Rothschild episode when money was given to the NHS and taken away and given back to the Medical Research Council for health service research. We have heard a lot about the difficulties of directed research, that is, about money being given to a group who are told, "Now we want some research into this, that and the other." Most of us have our noses to the ground and are looking in different directions and are not aware of the problems which occurred in the early seventies. It might be useful to have a brief outline on that.

A. I was not sufficiently inside later on as opposed to the beginning. The Rothschild recommendations implied that the Department of Health should be a much stronger customer than it had been in the past, and of course money was taken back from the MRC at that stage for this purpose. The Department did not make a very good fist of it. It created quite complicated arrangements. There was quite an extensive administrative organisation on research standing between the customer divisions, as it were, and the researchers, and there was also quite a complicated system of research liaison groups which were trying to bring in from the field people to advise the Department about choices. I think the main problem was one of bureaucracy run a bit wild. I do not think it was a model which could not have worked, but clearly it did not work, or at least it seemed to work for a time, perhaps when Sir Douglas Black was Chief Scientist, and then to go downhill.

863. I wonder how the new council which you suggest would be an improvement on that. I have got some ideas about it, but could you expand on it?

A. I do not think it is the sort of task at which a government department is likely to be very good. Research administration is quite a special field. When the Department of Health did have a good track record in this field it was because there were one or two very good people involved. For example, John Cornish was a very good assistant secretary for this purpose; he made this into his life, which is a rare thing in the Civil Service today. Usually civil servants regard such a post as leading the way to something else; they are not specialists in particular fields. You need to be on the side of the research units whilst at the same time keeping them in check. Probably the MRC has that sort of record itself in its own field, which is what leads me to think that something parallel might be the way to do this.

Chairman

864. I come back to an earlier reference you made. If health service research is going to prosper there either has to be a new body or an existing body must be made responsible for it, but neither is going to be effective unless more money is provided. The question is: Where is more money going to come from? If one has more money for medical research that is a good place for it to go, and no doubt others would compete for that money themselves. On the other hand, health services research could save a good deal of money through more effective administration in the health service and more effective administration of research, and basically if it is worth doing it should pay for itself?

A. This is in a sense Lord Flowers' point. I think that suggests that if there were some new body the main funding should come from the NHS vote. It would be easy to say that quite a substantial sum would be a very tiny fraction of the NHS vote, like £20m, which would be one-tenth of 1 per cent. That is not a big amount for a very large organisation to spend on looking at the way it does things.

865. It could be an argument for it being in the NHS because it will be the beneficiary of the improved efficiency?

A. Yes; it means health authorities need to be a party to it. You are still left with the difficulty that there is no single body in the NHS which can represent the NHS. You have to create something in

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[1] My answer may have been too short, and therefore misleading. To accept (as I do) Professor Jennett's argument is not by any means to reject all high technology medicine, but to require that its costs be assessed and its benefits proved.

[Chairman *Contd*]

some form if you want something to act for the NHS. The Department also spends quite a substantial sum on health service research, and some of this research spending is on supply matters and computers, which are not part of what we are discussing here. But of the £20m or so the Department spends on research, part should go into this body, whatever it is. The rest—Lord Flowers is probably right—ought to come from the Service.

866. Would you envisage that some of that money and some of the work should be devolved down to the regions and districts, because they all vary; some areas will want certain studies done and others will want different studies done, so that is an area factor here?

A. Yes, there is. It is quite clear that where you have units which are strong it influences the commissioning of work, because the existence of a strong unit in Cambridge, or St Thomas's or Northwick Park means there is local as opposed to national research. That is one of the things one would look at in trying to promote and sponsor units in order to ensure national coverage.

867. It seems a bit odd in a way that ouside firms are being commissioned to do operational research, or this type of research, for the health service; they have no expertise in the Health Service. One might say one would do very much better if one had a body of expertise within the Health Service which could be trained in applying particular studies and which could build up a source of seedcorn of experienced personnel?

A. I remember, Lord Nelson, when Gordon McLachlan was my equivalent at the Nuffield Provincial Hospitals Trust and was quite a strong user and promoter of Health Service research, he went in his last year or two quite strongly to the management consulting contract type of arrangement, because he argued that (although it was expensive) he knew precisely what he was getting and he got it faster than from research units. I think there will be a place for that kind of commissioning of managment consultants, but if one had units which did have a good track record and strong relationships with the field authorities, then the field authorities would turn naturally to those units for a proportion of the work they now turn to commercial firms for, and sometimes do not get very good value for.

Lord Flowers

868. Could you illustrate any of those remarks by saying something about the history of the clinical research centre, which has been mentioned, at Northwick Park? It was set up with extreme reluctance by the MRC, it took a long time and was finally brought into existence, but not given very much support, and now of course they are trying to arrange its transfer to another institution, or change it in some way at any rate. I should declare I am on the inside of that. I am interested in your comments about how the system with MRC at the centre did or did not support clinical research.

A. I think, Lord Flowers, you are a better source of information than I am.

869. Only the very recent information.

A. I do not really know the background. It does seem to me to be the kind of unit we are talking about, in terms of the type of resources which could make a real difference in this field, but we need more.

870. Then it is important to know why it did not work the first time it was tried.

A. That I do not know. I did not know it did not work the first time.

Lord Kearton

871. One of the regions we were interviewing last week is relatively under-funded, and the impression one had is that the regional chief medical officer really had done quite a lot of Health Service research partly to make his limited funds go further. One gets the feeling the incentive, because he was short of cash, was he wanted to use what cash he had as effectively as possible. So, if you under-funded more Health Service regions, they do more Health Service research!

A. It might be more at the efficiency end where we would see a direct saving than at the effectiveness end. If we think about some of the assessments of technologies, it really does not make sense to try and organise them regionally. If you are going to do it, you need to take some kind of national strategy for it.

872. Can I make a for instance, Chairman? It was mentioned in this particular region that open heart surgery cases were 150 per million per year. The National Health Service figure aims for 300 and it is clear the regional chief medical officer had his doubts about that and was doing research into it. There is this great variability not only in the country but also worldwide, and in certain parts of America it was 2,000 per million. The question arises, to what extent fashion comes into it and to what extent are they strictly necessary? To what extent can you look at this nationally, because you are very much at the mercy of the idiosyncracies of the chap who is doing the work?

A. I think on anything you are very much dependent on the skills and integrity of the person doing the study.

873. You can have integrity until the cows come home, but it is a question of judgment.

A. Yes and no. The evidence given might support your figure of 150, 300 or 2,000, but that evidence is not simply a matter of judgment; what you then decide to do is a matter of judgment and different regions might decide to do different things. On the question what types of coronary conditions justify open heart surgery, and for what types is it not justified—and there is a lot of

[Lord Kearton *Contd*]

scientific evidence about that—more work constantly needs to be done to clarify the facts. I do not think it would make a great deal of sense to have every region in the country commissioning research on that topic, just because their judgments about the facts might be different.

874. The impression we had was there was practically no coordination between the different regions anyway as to the amount of Health Service research they did.

A. I think that is true.

875. Another point: in this same region they mentioned they had done a lot of work on advanced renal dialysis and they had given some people three months longer life. The opinion was expressed that it was very doubtful in most cases whether the extension of life had been worth it to the patient, but then it was said that by using better techniques and using new technology you could make the patient more comfortable for his last months. In the end these are all subjective judgments; who is going to make them and decide what to spend on them?

A. The argument for more research is not really an argument that the research will make those decisions for you, it is simply a belief that it is better to base those judgments on some evidence than on no evidence. There are going to be all kinds of decisions about the use of scarce resources within the NHS which are still going to depend upon judgments, but hopefully it will be better-informed judgment. I do not think the research is ever going to do the decision-making for us.

876. I found your paper most interesting and thought-provoking, but when it comes to the examples I thought you were long on generality and short on specifics.

A. That is very fair and I would accept that. If we are trying to get into a few specifics, there are enormous variations in the way that GPs refer their patients to hospitals, variations of ten fold. There has been almost no research on why that is, what fashions those differences and what is good practice and what is not good practice. Yet the implications for NHS spending and indeed for treatment of patients are enormous.

Baroness Lockwood

877. You are still left though with the question which Lord Kearton is asking, even with this better knowledge on which to make judgments, where is the judgment to be made?

A. I think that will vary according to the question. There are certain questions which lie quite clearly on the plate of central goverment and others which lie on the plate of the field authorities.

878. If you take the GPs, to which you have just referred, what would you see as being the outcome of information on the different methods and motivations of GPs? How would you coordinate their practices and make the service more effective?

A. I am quite willing to try to answer that, as long as one accepts it is not really a question about Health Service research but a question about the use of research information once you have it. I suppose if the answer is that there is nothing you can do at the end of the day, then there is no point in having the information. I do not accept that; I think the GP can be influenced by information to some extent and by the way in which incentives are given to him. I think there needs to be a much closer relationship between most health authorities and the general practitioners who work in the same localities. I am not necessarily arguing for structural change, but I think the day will come when because we are very short of resources in the NHS we cannot leave GPs, or indeed other clinicians, to exercise their clinical autonomy without any regard for resource consequences; in other words, it may be necessary to set some sorts of parameters for what GPs may or may not do when we have the information to do that.

Chairman

879. Somebody has to do some research into just those sorts of questions?

A. Yes.

Chairman] One would have thought the NHS would be asking those questions all the time, and if they do not know the answers they should be commissioning research to find the answers?

Lord Hunter of Newington

880. Do you think there should be a career structure for people doing research in the health service itself?

A. Yes, I think so. Research is the kind of field where people cannot expect to have risk-free careers. Their career depends on their research productivity and whether, as they grow older, they become better or worse researchers, whether it is scientific research in a narrow sense or it is a broader type of research. I do not think any researcher should be given carte blanche and a prosperous life regardless of results, but unless people see the possibility of a reasonable career if they are productive, then they are not likely to enter the field. Or, if they do, they are not likely to stay in it. That has undoubtedly been a problem in some of the existing units. People may be attracted when they are young, but they rapidly see there is not a lot of prospect ahead of them, even if they are good.

881. Does the King's Fund train people in clinical research?

A. No. We have a scheme which enables those in the clinical field to get overseas experience, which may sometimes be research experience, because it seems to us they will be better doctors if they have some experience of working in another country and seeing things from another point of view.

882. Do you think this is such an important matter that you should consider going into this field?

[Lord Hunter of Newington *Contd*]

A. We are certainly prepared to consider it. To some extent, we have been in it for a long time, but bear in mind that the amount of money we could put into it would be very small, even in relation to the starting sum. We just do not have big money.

Baroness McFarlane of Llandaff

883. I would like to pick up the aspect of training in the multi-disciplinary nature of health services research and the need to train a cadre of competent researchers. I was wondering how you saw that multi-disciplinary team coming together, what kind of academic team you might get, and also whether researchers in medicine, for instance, might benefit from contact with other disciplines and their methods. That is rather a Pooh-Bah question.

A. I think a cross-disciplinary team is enormously important in researching many of these sorts of questions. It is worth puzzling as to why that should be. I do not think it is just because that is the way it tends to have been done, but rather that the nature of the questions is such that they do not draw on any one discipline. With complex, multifaceted questions, there is a need for people to get an understanding of what other disciplines can contribute and how they see problems, which one can get only when one works with people on a shared line of enquiry. In addition, I think some of the disciplines actually need research skills to be developed. It is not only a matter of promoting multi-disciplinary teams but a matter of developing the disciplines themselves. Nursing is one example. There are not many nursing researchers yet, and for some issues within nursing that is important. It is not just a question of bringing in a well-trained doctor and getting him to look at a nursing question, like catheter infections; some questions will require a nursing insight, so one needs to build skill in nursing research.

Lord Perry of Walton

884. Do you think it is important that the health service research council should be a research council in the sense of the MRC or SERC, employing people who are not themselves members of the health service and who are therefore independent, or would it be a group of people organised by a research committee who would be trained from the staff of the NHS itself?

A. Let me make a disclaimer here, which is that the cause is more important than the mechanism, and my argument for the research council is that I cannot think of other mechanisms that would be likely to work. Having said that, the important thing about the idea of the research council is to give it independence and a mandate, expecting it to develop its own track record and reputation. The kinds of people who might work for it are probably, in many cases, from the NHS or the academic world, that is, the people who might work in the units it sets up or the projects it sponsors. That seems to me to be the likely situation given the nature of the work we are talking about and the nature of the skills needed. I do not think any one body in government or in the NHS will make this its top priority and carry it out with sufficient independence without creating some kind of new independent identity.

885. It seems to me very difficult to set it up when I think we all agree, as far as I can judge from the discussion, it is something which ought to be paid for by the NHS or DHSS, or both. Therefore, it would be much easier to set it up in the structure with some earmarked grant laid down which it would use to do the work, rather than set something up under the DES which would be quite separate?

A. I do not think it is essential that research councils should come under the DES, although they do in fact, and it seems natural that this should be a DHSS body rather than a DES-DHSS linked body. I am not sure I would not have argued for the MRC being a DHSS body. After all, the money originated from the 1911 Act, and that Act was all about funding the provision of health care rather than the provision of research. When I talked of a research council, I did not mean to imply DES funding. On the other hand, I would not want to think of the new body simply as a special health authority in parallel with, say, the NHS Training Authority or the Health Education Authority, because the problem is that those bodies have not yet established the kind of sturdy independence that is required.

886. It does not have a budget?

A. The HEA gets a separate budget, does it not? Anyway, I would be trying to secure that it had sufficient independence not to be too influenced by short-term politics.

Chairman

887. What one has to have for it to be effective, it seems to me, is a flow of trained research workers in the health services field. I am not very clear where they will come from. Do you have any views on that?

A. I think that it will require, particularly to begin with, some form of training fellowships which are awarded on the basis of competition and of promise and give a special training in Health Service research.

888. Would that come in your remit?

A. I think it would have to be in the remit of this new organisation, whatever it is.

889. Supposing that does not come about? One is then left with the status quo and one still has the problem.

A. The short answer is, I do not know whether we could help. This year's main grant by the Fund is about a quarter of a million pounds, which is a lot of money by our standards but not a great deal by government's, and we actually put a priority on something of this kind, Health Service research training. Among all the applications we got, which were something short of 100, there was only one which was about training for Health Service

[Chairman *Contd*]

research. So we are trying, but I think it requires more money, more continuity than we can possibly give it. We could help but I do not think we are likely to be the main source.

890. It remains a problem then?
A. Yes.

891. How do you see the coordination between the work of charities such as yours and all the others and the MRC and the government agencies? Do you feel that is satisfactory?
A. I do not know enough about the main body of medical research to know how well it works between, say, the MRC, the Wellcome and the main medical charities. I would imagine it is quite informal and I do not think any one of them would give up its independence, but I think that is the way it has to be. As long as people talk at one another and take an interest in what each is doing, then probably that is as much coordination as it is realistic to ask for. In Health Service research that does not really happen, but then there is not enough to play for at the moment. We have a reasonable understanding of what Nuffield is doing and vice-versa. We each have some contacts with the Department concerning research but we would only join forces with DHSS in particular research fields or research projects where for some reason our interests and theirs coincide. I think it is partly a matter of relative size, their budget even in the research field is so enormous relative to ours that coordination is not a big issue.

892. Except that you would not want to spend your money which you have to look after very carefully in areas which are already covered by them?
A. That is true.

893. Or vice versa for that matter.
A. We do have means of trying to check that when it would influence our decision.

Lord Kearton

894. I was interested in some of the references to nursing research and the feeling one has is that so much of the discussion is rather mechanistic. Anyone with experience of ill people know that the actual ambience of the hospital, what used to be called the bedside manner, a cheerful, efficient nurse, whether the food is pleasantly cooked and well presented, has an enormous effect on the well-being and recovery of patients. Has anyone done any work on this, or is it entirely subjective?
A. I do not think much research is yet done on that kind of question.

895. The hospice movement has grown very rapidly. Has anyone done any research into the usefulness or value of the hospice movement?
A. Some research is done in St Christopher's particularly, but I am sure not enough, particularly as you suggest into the differences between hospice care and other alternatives.

896. Some of the hospices I know have had people admitted who have been absolutely hopeless cases and because of the quality of care they had long remissions.
A. Well, that is super.

897. So it is an indication that the ambience does have an enormous effect. There is a review of a book in the *Times* this morning by a doctor called, roughly, "How to be healthy and happy at 93" and it is using existing knowledge; the whole basis of this book is that sufficient is known now about diet and all the rest of it, and that apart from accidents and major surgery most people can have a healthy and happy 79 to 90 year old period. The author makes the point that over-prescribing of pills is one of the major causes of ill-health in old people, which is the iatrogenic factor. Has any work been done on this? I am chancing my arm in such distinguished medical company, to put it mildly!
A. I think some work has been done on iatrogenic effects of drug prescription. But a lot of pharmaceutical research is funded by the pharmaceutical industry, and there are some questions which the pharmaceutical industry is not very likely to ask.

Chairman

898. Before we close this session can I ask a question relating to your remarks here about the impediments to improvements in the service? How many of these impediments to better practice are inherent in the structure of the NHS?
A. The structrural boundaries can be an important impediment in some fields, particularly barriers between the social services on the one hand and health organisations on the other, or between general practice and hospitals which we touched on earlier. Also, increasingly perhaps, geographic boundaries. As budgets become more confined, people are taking a more parochial view of what their responsibilities are and how money should be spent, and even the freedom to refer is becoming confined by boundaries. In fields like geriatrics and psychiatry——

899. This arises in any big organisation.
A. That is right, however you organise it there will be boundaries. You can find the organisational structure has stood in the way of changes, and the Audit Commission's Report on care in the community is an example of that and suggests changes in the structure for that reason. I think changing the structure is relatively seldom the answer, it is more changing the way people behave, and changing incentives rather than the structure.

900. On the management of research, do you see a need for strengthening DHSS methods of managing their research programmes?
A. If we were to set up something like a research council, then much of the function which the Department fulfils would, I hope, be fulfilled there rather than in the Department. If your Lordships decided in your wisdom that I am strong, and that it

[Chairman *Contd*]

would be better to continue on the present path, then I think what the Department needs is not so much strengthening as a much greater willingness to invest in this field to try to see that the Health Service research actually prospers out there as opposed to trying to squeeze a particular bargain out of a particular unit at a particular time, which seems to be where the main effort of departmental research management is focused.

901. Thank you very much. You have been very patient and given us replies to a lot of our questions. Are there any points which have not been covered by the questions which you would like to make to us?

A. No, Sir. I wish your Lordships luck!

Chairman] Thank you. We appreciate you giving us your time.

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HOUSE OF LORDS SESSION 1987–88

MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

Thursday 22 October 1987

DR D M HUMPHREYS
AND
MR PETER STYLES MBE

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THURSDAY 22 OCTOBER 1987

Present:

Adrian, L.	Perry of Walton, L.
Erroll of Hale, L.	Rea, L.
Hunter of Newington, L.	Sherfield, L.
Kearton, L.	Smith, L.
Lockwood, B.	Taylor of Blackburn, L.
McFarlane of Llandaff, B.	Warnock, B.
Nelson of Stafford, L. (Chairman)	

Memorandum by Dr D M Humphreys

1. I am responsible for the Scientific Division of Boehringer Ingelheim Limited, United Kingdom, the British subsidiary company of Boehringer Ingelheim—a German international company. I and my divisional staff are engaged wholly or in part, in the clinical aspects of new drug or existing drug research and development. A key priority in research is to assist the parent company in the development of new pharmacologically active compounds by their study and research in association with British clinical investigative units. Our parent company sets great store by British clinical pharmacological standards and clinical abilities in the development of new medicines. Thus, we fund directly clinical studies of our research compounds and marketed products, as well as perform clinical drug research in conjunction with our practising clinical investigator colleagues. Our data are available directly to the DHSS and professional journals in support of research compounds and our marketed products. We conduct studies at the Phase I to Phase IV levels. Our studies are fully funded, notwithstanding the fact that patients are deriving benefit from participating in our clinical trials, thus relieving the NHSS of some of the costs of patient care. The drug development programmes performed by BIL United Kingdom, include activity in the fields of cancer, cardiovascular and respiratory medicine and include new pharmacological entities, as well as biotechnological products.

2. Responses to the nine specific (a–i) questions. The responses inevitably include opinions relevant to my company as well as my own personal views as a physician engaged upon clinical research.

(a) The Government accords a priority to supporting medical research through the Medical Research Council (MRC) and to a lesser extent, to research conducted by practising physicians and surgeons. These studies, deemed necessary by the MRC, may attract funds from the DHSS, viz the MRC mild to moderate hypertension trial. Those deemed less important or subject to financial constraints may not necessarily attract substantial Government funding viz MRC trial of acellular pertussis vaccines (1987).

The research needs of the NHS are infrequently met since the Government funds doctors to treat patients, not to perform research, and has relied for years on the desire of doctors to perform on an amateur basis, clinical and epidemiological research. Asthma is a common disease in Britain, which kills many patients, but no study has been performed to assess the prevalence of asthma and the success of treatment. It has relied upon the pharmaceutical industry to research the treatment of asthma.

Thus, it may be said, that the NHS, while performing needed epidemiological studies, has also relied upon the scientific inquisitiveness of its clinical employees—unrewarded in financial terms—and the pharmaceutical industry to perform studies that have a direct bearing on patient treatment, a function that the NHS undertook to provide when created in 1947.

(b) The question should perhaps be rephrased to include the following. Is adequate medical research being performed? It is obvious that the MRC can support less and less research as time has passed, despite stringent review of funding requirements. I do not believe that I can say what programmes should be cut back, but I can take one example published most recently. Pertussis vaccination is highly desirable given the morbidity and mortality of the disease. However, vaccination has hitherto been associated with a small number of cerebrally damaged children.

It is known that vaccines derived from pertussis freed of cell-wall material, may be antigenic without causing cerebral damage. Yet the DHSS is afraid to conduct a major study that is badly needed in case the companies who have developed and are willing to fund that study, are wrong in their conclusions about their products. The industry is, in general, unafraid to fund research into its products notwithstanding a small risk of patient hazard and medico-legal arguments involving the Secretary of State.

By the same token, physicians and surgeons are permitted to conduct "own responsibility" investigations that may have no scientific rationale with little or no controls. The industry has been and is willing to shoulder the costs of developing its new products, but should not expect to pay for the costs of patient care—undertaken by the Government in 1947 by the collection of taxes. Equally, the Government must expect to fund medical research if the epidemiology of disease and its treatment is to be developed in the interests of the efficient and effective utilisation of resources.

(c) I do not believe so.

(d) I think that the priorities in medical research are influenced by the institutions through which research is funded but perhaps more by the interests of those who manage the institutions than by the available knowledge. There is an imbalance between the public, commercial and charitable funding of research, that must damage the impartial direction of research, in that no body exists to correlate the interests of those funding.

(e) In general, yes. Most researchers look to publish their results. There is a prejudice against publishing the results of drug development trials by the editors of medical and scientific journals, despite the fact that the wider publication of therapeutic trials might better inform prescribing doctors and rationalise prescribing habits. Editors prefer to publish esoteric "scientific" information than to publish the results of practical drug trials.

(f) Unnecessary duplication of effort would be best avoided by a *real* harmonisation of drug registration as presently being pursued by the CPMP within the EEC. Cheaper medicines would result from a real acceptance by the Member States of common standards. The industry presently has no confidence in the approval of a drug substance by one Member State being valid for other Member States.

(g) I think not. Improvements in patient care or health education may carry some benefits for individuals, but not necessarily for whole populations. The present AIDS campaign is having some benefit, but those who are determined to pursue their own life-style, will do so regardless of the information developed by research in the absence of firm discipline. Equally, I believe that research is fundamentally biased in a clinical setting, since review methods lack "bite", while pharmaceutical research is tightly controlled by the DHSS and the information so derived is subject to the Medicines Act. There are biases that need further careful review in the conduct and assessment of medical research.

(h) Firstly, the training of medical researchers would benefit from a clear understanding that medical research is as important as patient care, with real benefits to the Treasury. Thus, funding for research posts within the NHS, should be considered as important as funding for patient care. Second, priorities can be established (via the MRC) as to what subjects are prime candidates for medical research and thus demand central, charitable and commercial funding. Third, medical researchers must change some of their attitudes towards the commercial sources of medical research. Too many doctors say to the industry what "I want to do what I want with your drug at your expense". An element of blackmail thus may exist which vitiates honest judgement.

(i) MRC standards should apply to both Government and industry funding and management of medical research. "Good Clinical Practice" has been established in respect of medical and pharmaceutical research. It needs reinforcing. When clinicians say to me "I want to distance myself from the industry monitoring or statistical input so as to be impartial", I know that means "I want no controls or management or GCP but you can pay for my activities".

In terms of organisation, I would most strongly request the imposition of clear standards in the conduct of medical research. It is our own experience in the pharmaceutical industry, that protocols are more honoured in their breach than in their observance. In addition, the clarification and review of data costs more in time and money than would be believed possible by those who expect to work to ethical standards.

I would welcome most strongly the possibility to debate these issues further. I thank you for opportunity to present written evidence in response to your questions.

I reiterate that the opinions expressed herein are my own, based upon eight years' experience in the conduct of clinical research and do not necessarily reflect those of my company.

Examination of witness

Dr D M HUMPHREYS called in and examined.

Chairman

902. Q. Good afternoon, Dr Humphreys. May I start by thanking you very much for coming along to join us this afternoon. We are very glad to have the opportunity of receiving evidence from somebody who is active in the industrial side of the medical field. I am sure your views will be very helpful to us in our deliberations. I would like to thank you for the note you have sent us which gives us extremely good background information. Is there anything you would like to add to what you say in your note before we start the questions?

A. No, I do not think so. I have received the supplementary possible questions and taken some notes and thought about those, but I think in general industrial physicians have all of us encountered at some stage some of the difficulties working within the confines of the Health Service that I referred to in my original statement.

903. Thank you very much. If I might just perhaps for clarification ask this, you are part of the British subsidiary of a German international company—is that international in the sense of being internationally-owned or international in the sense of being German-owned but operating internationally?

A. Boehringer Ingelheim is one of the few companies in the industry that is still privately-owned, but it is an international company in terms of the subsidiary companies all over the world.

904. Actually privately-owned?

A. Yes, the Boehringer family still own the company.

905. Could you perhaps tell us a little bit about what your company does in this country in the way of research and development as distinct from what is done in other centres, particularly presumably in Germany itself?

A. Right. We are unusual for a pharmaceutical company in so far as we have some seven discovery centres of which there are two in Germany, one in Vienna, one in Japan and one in the USA, and another in Italy. These are the discovery units for new molecular entities. My own group working in the United Kingdom is purely concerned with clinical research, that is, taking drugs into man for the first time through to registration approval by the Department of Health and on beyond in terms of further study compounds that we have on the market. So it is basically patient-oriented.

906. That is with a view to getting approval for sale to the National Health Service in this country or for approval for sale in the international market?

A. Internationally. I have a very large department, unusually for a subsidiary company in Britain, in so far as the Germans have felt it an investment to put money into this country because of a belief in British research, British drug development capacity. So I have in fact a group who concern themselves with marketed products within Britain and another group who are doing early phase work in our hospitals and pharmacology units as part of a global drug development programme.

907. Could you give us some indication of the scale of that programme and how it in fact is funded?

A. Yes. The Department of Clinical Research within my group is some 9 people, of whom 6 are professionally qualified either medically or scientifically, and they will be running up to 12 to 15 clinical trials, each of the professional heads, on compounds that may not necessarily be of commercial interest in the United Kingdom but which will certainly have the capacity to be developed on a worldwide basis. But I view them rather as an extension of our head office in so far as we provide the facility for which they pay. They provide funding to conduct the studies as well, of course, as budgeting for our domestic employment of people.

908. And all funding comes from your own company, does it?

A. Yes.

909. You do not get any grants within——

A. No, all our costs are covered by the company earnings worldwide. Boehringer puts about 20 percent of sales into research and development, which is a very high figure.

Lord Hunter of Newington

910. Is the United Kingdom still the cheapest satisfactory place to do clinical trials?

A. It is becoming much less so. It is becoming much more expensive in Britain. My previous position was a European research directorship for an American company and I have in fact worked in all the countries of Europe doing clinical trials phase 1, phase 2, phase 3, and including South Africa. Now probably the cheapest country at the moment, curiously enough, is Sweden because the grants paid to investigators are largely removed by the Revenue in Sweden so they much prefer not to be paid but to be funded for travel to meetings, congresses and that sort of thing. Sweden has paradoxically become inexpensive as Britain is tending to look towards the figures that the United States have produced where it is much more of a business and contractual arrangement.

911. Is this contractual relationship with the Health Service or an individual?

A. No, with individuals. The area health authorities and hospitals in particular have been starting to get interested in this whole area on the basis that they feel some sort of administrative charge might be appropriate. Discussions that I have certainly had with the ABPI on this subject are getting quite serious because we find variability of about 10

[Lord Hunter of Newington *Contd*]

percent for use of the facilities, which is not unreasonable, up to 40 or 50 percent additional levy by the area health authority, which would seem to us to be somewhat unreasonable. There are no guidelines and no fixed figure for our use of the area health authority facilities, given that we pay for actual services, tests, studies within the hospital that we use.

Chairman

912. The terms of reference of our inquiry are, of course, priorities of research and development in the medical field. You mentioned in your report the fields which you cover—cancer, cardiovascular and respiratory medicine. Could you tell us a little bit about how you decide your priorities or how they are decided within your company?

A. I think that, once we feel we have adequate research work done at the pre-clinical level with a compound that clearly possesses pharmacological activity, our development programmes are very much guided by how we take that compound through to the licensing authority for approval for sale. While that pathway is quite well defined in terms of the so-called phases of development, obviously one's planning tends to be governed by results previously obtained. We do tend to focus on the development of a potential product rather than necessarily a new disease or different treatment for a particular disease. Our priorities will be ultimately to our marketplace.

913. Of course, you do not do the original basic research?

A. No.

914. So you are following up the results of the research, so the priorities are already determined to some extent by the original research?

A. That is right.

915. Can you tell us how the priorities of the original research are arrived at?

A. I think the discovery chemists have today so much knowledge of things like structure-activity relationships that they tend to be looking for particular molecules and then testing them to see whether they have pharmacological activity. Clearly a lot of companies smaller than the innovative research and development companies will tend to take existing molecules known to have activity and then, by playing with them, produce an alternative medicine—what we would call the "me too" drug—whereas our own chemists will tend to look at disease areas,look at what is known chemically, biochemically and pharmacologically about those diseases and then see whether, based upon known information regarding chemical structure, a molecule might be developed which could influence those processes within that disease.

916. And therefore have a market application?

A. Exactly.

917. Why do you do your basic research in the centres which you mention and not in the United Kingdom but on the other hand you do your clinical trials in the United Kingdom as well as elsewhere, I presume?

A. Right. That is more historical, I suspect, than anything else. For instance, the Italian discovery unit is called Instituto de Angeli; that was bought by Boehringer. So where they have been able to find investigative units or institutes with scientists who have been looking at potential molecular development the company have gone out and either created business links with that group or have bought them outright. We are unusual in that most companies known to yourselves—American companies the same—will tend to have a single discovery unit, usually at head office. It is unusual to have a variety scattered around the world as we happen to have.

918. That is historical?

A. More historical than by design.

919. Not due to the fact that there are better incentives or some reason like that?

A. I do not believe so.

920. It is not due to a lack of incentive in this country?

A. No. The clinical development you mentioned is broadly worldwide where we have professional staff and the capacity to do the work basically because boards of health do like to see data on indigenous personnel as well as data from foreign centres. We still believe the Japanese are different from those of us in Europe and America and we tend therefore to ask for confirmatory data on even early phase work done in Japan. The differences may be somewhat more imagined than real.

921. Would you like to tell us a bit more about that? You are in a very interesting position because you have experience of doing clinical trials in a number of different countries. Can you tell us more about how you see the carrying out of clinical trials in this country as compared with doing it in the other countries in which you are active?

A. The thing on which I focus in my evidence is that I would very much like to see a much closer distinction of the relationship between industry and investigative physicians in the Health Service. I think we feel sensitive to our market place and tend to be a little hesitant in addressing issues of contractual responsibility and financial responsibility. Therefore, historically we have been sucked into a situation, in my opinion, where we are asked to provide for a particular need within a clinical unit or a particular hospital rather than paying for work done which is much easier to define. When one talks to one's staff about this sort of thing when they are negotiating the costs of a particular study with a particular investigator or institution one uses the analogy of having an extension built to one's home. One does not expect to get a piece of paper which simply says "Cost: £10,000"; one

[Chairman *Contd*]

needs a detailed cost breakdown. I feel we have been dilatory about it in this country, and perhaps it tends to lead to political questions both in Parliament and in the Press. I think the tendency has been to say, "Oh, we will give you £10,000 if you do this study", rather than, "What do the blood tests cost? What does it cost to fill in the case record forms? What does it cost to recruit patients, and what is the cost of senior clinicians, nurses and so forth?" If we had a more businesslike arrangement, perhaps to be suggested by the Royal Colleges, in terms of either guidelines or recommendations, it would be very much easier to have studies which we could all agree we wanted on a contractual basis without, shall we say, constant repetitious arguments in the Press about how we think doctors should work and how we, the industry, conduct our affairs *vis a vis* the clinical profession. This is something I have tried to focus on for a number of years, and, to my surprise, I have found it has worked in Europe. For example, people in Germany or Italy tend to say, "You will never get doctors to do cost estimates." In fact we did by simply not being prepared to do the studies unless we had coherent costings.

922. Is it the doctors or the Health Service officials?

A. We have traditionally gone, and still prefer to go, to the doctors because the contract you are negotiating is a clinical not an administrative protocol. Therefore, it would not be something which an administrator could review and comment on as to whether or not the experiment was appropriate. Nevertheless, it might be more helpful to have a situation, as in Sweden, where we tend to pay an institution rather than a doctor. This is a difficult question, because I think that my colleagues in the ABPI still prefer a one-to-one relationship with the physician, yet it is that very relationship which has led to the report from the Royal Colleges about the relationship between industry and the professionals and the adverse comments in the Press and Parliament about that relationship.

Baroness Lockwood

923. You seem to suggest in a number of places in your evidence that the NHS is not really paying for as much as it gets. For example, in paragraph 1 you say: "Our studies are fully funded, notwithstanding the fact that patients are deriving benefit from participating in our clinical trials, thus relieving the NHS of some of the costs of patient care." Again you make a similar reference in paragraph 2 (a), the third sub-paragraph, and in paragraphs 2 (b) and 2 (d)?

A. Yes. This may be getting worse because of funding difficulties within the Health Service. We tend to be asked to provide staff—"Will you fund a registrar?" From a business point of view, that is difficult because what I need to satisfy my management about is that a particular study is completed to a particular timescale, normally a realistic one which is debated with the clinician involved. It has been my experience that when we have been asked to provide staff, who certainly do not do our work one hundred per cent of the time but who find themselves doing out-patient clinics, ward rounds or admitting patients, the clinician then says, often when we are a year through the funding and we do not have an adequate entry of patients to our trial, "Would you continue to fund those staff?" leaving us with the impression that we are paying for the registrar, the nursing staff and the equipment, so the value goes to the NHS rather than towards the work we want to do. When you are in that sort of contract it is difficult to speed it up or to say, "I will no longer pay that person's salary because I am not getting what I contracted for."

Lord Rea

924. Since your profits come from the sales of your products to the NHS, would this not seem a fairly reasonable arrangement?

A. I suggest it is not, on the basis that it becomes too open-ended. I would far rather see the development of some sort of arrangement on that side, whether it be fees for services or some sort of contractual fee with the area health authority itself more involved, than to have a fee for a nominated doctor, nurse or scientist.

925. So, you are in favour of a contractual agreement with the Health Service?

A. Yes, very strongly.

926. I would be interested to know if you have had any negotiations at all along those lines and whether you have got any model situation?

A. I do not believe we have. The ABPI would still prefer to have direct liaison with the investigative physician, and there are reasons for it. Personally, I do not believe we can satisfy our aims of being both businesslike and being professional in terms of the financial arrangements if we do not deal with the problem of administration in area health authorities. Equally, if area health authorities, as I am sure they will, perceive—as they are perceiving—that the industry is an appropriate source of income to them for the work that industry wishes to place in a particular area health authority, it will make it a lot easier for us.

Lord Hunter of Newington

927. But in part these costs are derived from the present system?

A. In my experience, that tends not to be the case, but it should be so, yes. Where one can say, what are the costs of this particular protocol in terms of laboratory tests, X-rays and so on? they are quite easy to produce, but in fact in this country we seem to be rather tardy in doing so. It would be quite easy to produce a protocol on which an appropriate margin for fees for work done could be allowed. It might increase our costs, but we would not object to increasing our expenditure provided we got a better quality of study.

Lord Kearton

928. What degree of success have you had; in other words, how many drugs have you tried out?

A. My clinical grant budget at present is about £1m a year. We have a drug which Lord Hunter will know about called Persantin (dipyridamole). Just how effective this drug is has been the subject of considerable speculation by the Committee for the Review of Medicines over the years. A lot of doctors prescribe it and a lot of patients take it. The experimental evidence in terms of pharmacological studies would paper the whole building. The clinical efficacy of the drug has been extremely difficult to establish. In part, that is because the company has not insisted on performing the right studies and also in part it is because lots of people have gone out and done their own thing and come up with lots of confusing data. To come back to one of my own comments in my statement, where protocols are honoured more in the breach than in the observance this is a major problem for all of us, unless we have very, very strict monitoring of units, and that means staff; it means committing people to these studies to be certain we have the right sort of patient entry in the trial and the right eligibility and criteria to be able to make an evaluation of the results at the end of the day so we have data which will satisfy an impartial review body.

That is what we are aiming at, and we tend not to get it.

929. I can see that your bargaining position is very weak, it is really almost non-existent?

A. That is right.

Chairman

930. Where do you go to enter into contracts for such clinical trials? Do you go to the teaching hospitals or do you go to the district hospitals and do you tend to go to the same place and same people?

A. We try to vary, but we do go to both academic institutions and district hospitals. It depends on the degree of expertise in a particular area. Boehringer has a particular interest in respiratory disease, as I mentioned. Obviously we know of the respiratory physicians personally up and down the country and those in particular who will do good work. Where we sometimes get problems are where there are very senior clinicians who do not themselves conduct the clinical trials but are desired by marketing in some way to be seen to endorse the product or to have worked with it because that provides a spinoff elsewhere to other people who look to those individuals.

931. Have you any idea what the proportion would be as between the teaching or academic institutions?

A. I should think at least fifty-fifty. It is more appropriate to go to academic institutions in phase 1, which is usually experimental, and have volunteers, and we prefer to do it in pharmacological units although there are increasingly commercial houses developing this sort of expertise; and in phase 2 one tends to treat the more seriously ill patient on the basis that his disease is more measurable rather than the mild one that is not in hospital. However, with respiratory drugs such as ours asthma is a particular target, and the majority of asthma patients live in the community and see their family doctors, and we have therefore built up a network of general practitioners who are willing to conduct research on their patients. We do indeed have a field-based team of research associations scattered around the country who can visit those centres participating in trials. So the proportion is heavily weighted to hospitals initially and, depending on the drug (as I say, respiratory or cancer would continue in hospital), that will determine the balance of how we place our trials.

932. So quite a significant proportion is, in fact, in the primary health care field?

A. For us, yes.

Lord Perry of Walton

933. Is part of the problem because the institutional contract, if the work is going to be done by full-time staff, inhibits the payment of the staff by the institution which already employs them on a full-time salary? This happens in universities.

A. Right, that is difficult. Certainly when one places a study it will normally be junior doctors who will actually conduct it unless it is in a district hospital where perhaps you have a young consultant who wants to make a name in terms of journals in the research he is doing, and maybe for the development of his own personal research. Of course, where he needs our help he gains funds for his own basic research into disease. In the hospitals I think, while we go to senior people to discuss the principle of the study, one tries to identify with the younger doctors and nurses and scientists who may actually be doing the nuts and bolts of the whole thing, and it depends on how good and how close that sort of relationship is. We still, I fear, have a position where young physicians in this country are brought up to think in terms of a future in hospital medicine and industry positions still do not have a particularly good name. So the relationship is not always an easy one.

Chairman

934. I will pick up a point you made there, if I may. You referred to nurses. How much of your work is directly done through the nurses rather than through the doctors and consultants?

A. I think there is no doubt that probably far more than we realise. In the studies set in a particular hospital undoubtedly the nurses will be carrying out some of the work. I would be very surprised if that is normally costed or brought into the equation. On the other hand, we do frequently provide data nurses. That is much easier than, for instance, a physician, a registrar. We find them more cost-effective in terms of actually getting the data but there are many nurses who would like to

[Chairman *Contd*]

work six months or nine months in association with a trial and who do in fact provide a remarkable return on that investment.

935. Would you be working directly with the nurse?

A. My team would be, yes, because they may be better at providing the data.

936. I wanted to bring that out. Would you contract with them ?

A. We would tend to say to the unit, if it is agreed that a data nurse be provided, "You seek locally someone who can work with you and for you and we will fund that".

Lord Kearton

937. How big a patient sample do you like in these clinical trials?

A. It varies. I have just started a study with one of our drugs—the one I mentioned earlier, Persantin. That will be approximately 1000 patients at something like 50 centres because it is the kind of drug where, to determine clinical benefit as certainly as one can, we need a fairly big sample size. Part of the problem in developing that drug is, even when one has a big sample size, given the heterogeneity of the disease, it is difficult actually to demonstrate the benefit we expect.

938. What have been the outstanding successes of your company in the last few years in funding all this research?

A. Persantin has been a very successful drug worldwide, even though the approved indications as judged by the CSM, FDA and other boards of health are not necessarily those indications in which the drug is used. Of course, the profession worldwide is entitled as a rule to treat patients with the medicines it believes will do the patient good.

Chairman

939. Forgive me, when you say successful, successful in the fact that it makes a profit or successful in curing the patients?

A. I think we would like to believe both. Certainly it has been profitable. We get articles periodically which have been distinctly hostile to the drug from some of our clinical pharmacological colleagues and I think, if one is commenting on their views, yes, I would agree the data do not necessarily support its use. But I think that is so of many, many other drugs in common usage today. On the other hand, I think we feel particularly proud to have developed the anticholinergic treatment of asthma, and we are successful in this country where Glaxo is a very big neighbour and domestic neighbour, and it is an area we have been successful in.

Baroness Warnock

940. Where have the results of that success been published and where would you like them to be published, because you have some complaints about publication?

A. I think that is true. I know Stephen Lock of the British Medical Journal quite well—I know the Lancet less well—and have debated this sort of issue with him. I think the British Medical Journal is perceived as a journal for the average prescribing doctor and he, indeed, has shown on a number of occasions willingness to publish significant therapeutic trials. The industry over the last twenty years, I think, has gone from doing what one would call silly little 20-patient studies that do not amount to anything (which I think was why editors disliked publishing—they were not very scientific) to doing the kind of thing we are now doing in terms of 1000 patients and more. In the meantime it has often been extremely difficult to get drug trials published in the scientific press unless we actually pay for it as an addendum to a particular journal or a meeting which is then reported, and these publications tend to carry a little less weight because they are less independent, they are sponsored by us after all. Yet when I was in general practice for eight years one did go to postgraduate meetings and one did have access to continued learning. But where are we to get our further training with new medicine, particularly if drug trials are not published as a routine in the regular journals the family doctor and hospital clinician get?

Baroness Lockwood

941. Is this because it might be thought it would be advertising that you are a commercial organisation?

A. It is hard to say. I think there is probably something of that kind in it. Perhaps we tend to offer sponsorship rather readily, because there is no doubt our marketing colleagues will jump at the opportunity to have our data published wherever possible. That suggests an independent review of the article and, yes, this is the bit to publish, this is advantageous, and of course it is a far better reference than something we have just published ourselves. I feel perhaps there is more of a compromise. I reviewed a book published by Andrew Herxheimer some years ago on the pharmaceutical industry and drug regulation and I comment that it seemed to me that, while we were being constantly fed documents which pointed to the cost of medicines (aspirin is a halfpenny and something else is £2 per capsule or tablet), it would be more useful to have a lot more drug development pharmacology written up to teach our practising physicians, particularly in general practice, how to use new drugs. I think we are trying to do that much more now with the sort of scientific meetings we have, but not a lot of general practitioners can come to some of our international meetings. It is difficult for them to do so. Also it is very expensive for us to provide.

Lord Rea

942. I am rather intrigued to find you are mounting a large scale study of Persantin which

[Lord Rea *Contd*]

you say is one of your successes, when it could be that a large study is going to show clinically that there is no measurable therapeutic benefit.

A. We have looked at that one fairly carefully. We have gone back and looked at our data all over again because we are representing our data to the Committee for Review of Medicines at their request this year. One of the requests was for the need to do some more work on the drug and we have looked at what we have to see where our best opportunity of demonstrating definite efficacy lies and as a result of that we have set up this trial. But the statistics alone demand that size of study.

943. In other words, you have faith in the product?

A. Yes, we do.

Chairman

944. Pursuing the same line of thought, in your paragraph 2 (f) you refer to the need for "acceptance by the member states of common standards", and in your last paragraph you say, "I would most strongly request the imposition of clear standards in the conduct of medical research." The two are somewhat linked together. Would you like to amplify those two points?

A. I had two different things in mind. The EEC, as we might expect, is proceeding very, very slowly on the issue of harmonisation of drug registration. If one were to have a clear desire for people of any of the Member States, one clearly wants to have a reasonably inexpensive but effective drug. The problem I think the companies have is that the very plethora of rules and regulations and requirements which differ across Europe, however harmonised it has become, has meant that few companies with a major new chemical entity would attempt the CPMP route if only because, if we go to France where there is a four or five month scientific review, will Britain accept that assessment and approve the drug? There is a lot of hesitation as to how well the system is working. I would do it for an 'orphan' indication or possibly a new indication with an established drug. Today, I would still put in a full package filing, probably the same document in all the countries of the EEC. I would not put it into one country, get approval and request marketing approval in the other Member States because I do not believe the system is yet geared to working in that way, but that would produce considerable economies.

945. This comes back to the problem of harmonisation. Everybody is in favour of it as long as there is harmonisation with them?

A. Exactly. Britain has tried to make it work by sponsoring a number of applications, but we still do not have harmonisation. As far as the conduct of clinical trials is concerned, as an industry we are increasingly acquiring staff with a commitment to what I call good clinical practice—what the FDA would call FDA requirements—in the conduct of studies into experimental compounds, or even the marketed products. We will provide a medical and scientific back-up in terms of staff to work in conjunction with the clinician. I emphasise that this is a partnership. If the clinician has the patients and the junior staff and is interested in doing the research we will fund it. By the same token, if we are to have evaluable data we have to supervise the filling in of the forms, cross-check the results and guard against inaccurate or incorrect data; and we also have to be particularly concerned about safety. As you know, one of our key requirements—we are probably pre-eminent in the world—is the reporting of safety events associated with clinical trials of experimental compounds, particularly when we have a more severe standard in this country than in the USA or anywhere else in the world. That is right and proper. It is at times very difficult to get clinicians to understand that they will be filling in data which to us will be adverse events and to them will not be anything of clinical importance.

946. I am not really clear about this. Where does the fault lie?

A. I think it has lain on both sides. We are getting better.

947. Is it the fault of industry, the profession or the Government?

A. It comes back to the old comment that you are a better GP if you make good notes because you can remember what you did each time.

948. It is not the standards laid down by the regulatory authorities but the standards of the professional individuals to which you are referring?

A. I feel there is a case for some sort of guidance, probably from the Royal Colleges, about this rather than having a GMC-type approach, or government-type approach. The FDA are very bureaucratic; they lay down absolutely and precisely how a company will conduct a particular study. I would not like us to have that situation; I would like us to do the work in a particular way because that is the right way to do it.

Baroness Lockwood

949. But there are no standards established at all in this country?

A. Good clinical practice has now surfaced from the ABPI, and that is a start. That is the sort of informal approach one admires, but it has been quite a long time coming. Certainly, from my European experience we have had to impose it on clinicians in European countries where no such guidelines or advice exists.

950. If standards were established, would this not be a help to you in getting some of the results of your research published in the science journals?

A. I do believe so. The fact the Royal Colleges have published a report on studies to be conducted in healthy volunteers is regarded as a major step forward, because there are no regulatory requirements for volunteer studies. Perhaps the most

[Baroness Lockwood *Contd*]

significant thing to emerge from the document was the realisation that some commercial houses doing contract work of this sort did not have a properly constituted ethical committee.

Lord Sherfield

951. In paragraph 2 d) you say: "There is an imbalance between the public, commercial and charitable funding of research that must damage the impartial direction of research, in that no body exists to correlate the interests of those funding"; in other words, it is a rather haphazard situation?

A. That is my belief.

952. Do you advocate the creation of such a body and, if so, what form do you think it could take?

A. I have no particular feel for how that might be done in terms of basic research in the Health Service or charitable funding, although I have experience of the Cancer Research Campaign and the cancer charities in this country versus the NCI. There are Cancer Institute-type studies performed in Britain. One feels there is a disparity. I have to account for my £1m worth of expenditure to my management very carefully and demonstrate I am getting value for money. On many occasions I have had reason to doubt that the charitable funders do indeed get value for money, because many of those funding research, when they read the reports, might not be able to assess whether or not the experiment has been a good one in the first place. At least I can do that as far as my management is concerned. There the rules are tougher, because the owners of the company want to see their money spent to good advantage and they need me to police it, if you like. The MRC, clearly, if you look at the way they fund trials, are very careful to ensure that grant applications are made in septuplicate and very clear reasons are given for doing the study; there is a highly professional approach. That does not seem to apply in other areas, whether it be basic research or, as sometimes, industry research. I think we do have to dream up a way of being able to assess value for money in this area.

Chairman

953. I am surprised to hear you say that, because it has been said in other quarters that industry is very much better at deciding when it gets value for money than bureaucratic organisations?

A. I think we do. I think the MRC has done well, but I sometimes wonder about the other sources of funding which are often funding a clinical interest as opposed to a valued experiment.

954. You mean charitable sources of funding?

A. Yes. The NCI is a case in point. President Carter provided $10m to cure cancer, and the Washington Post asked, What has the NCI done with it in the meantime? That was an important question, because the quality of studies done by the NCI was not particularly good at that time.

955. But it was Federal funding?

A. Yes.

Lord Perry of Walton

956. Do you agree that Medical Research Council trials are usually done for one of two reasons: first, because there is a very strong suspicion that something being used now should not be used, and, secondly, it is believed there could be a major advance which it is hoped could be achieved on a national basis?

A. Yes.

957. How many of the trials done by industry are being done on relatively minor improvements and therefore need vastly more patients in order to show the small difference that exists, and how much of the problem is because of that?

A. How many non-steroid agents are there on the market, and do we need them all? Some will say that we need five and we should not bother with the rest. We have an experimental heart failure drug; it is a vaso-dilating agent which increases the force of contractions of the heart. The competition for patients in that research area in recent times has been absolutely ferocious, and the price in research is going off the map. It is difficult, until you have done the research, to be sure the drug is indeed a great advance. It may look promising in the early experimental years, but you cannot be sure it is not just a "me too".

Chairman

958. To switch to another point before we close this session, how seriously does the issue of effective patent life affect your thinking as an industrial concern in this country?

A. We were very strongly hoping that the Lords Bill before the dissolution of the House would go, thus abolishing the right of others to pick up a drug shortly prior to the end of patent life. Of course, that fell with the dissolution of the House. We would like to see that Bill reintroduced in that we feel the rules of drug development are so severe that, if you have 20 or 25 year patent protection you are going to lose anything from 10 to 15 years of that if you are a good company. I am talking about some of the very, very able companies in drug development, and still you may only have 10 years of patent life on the market. If you are not such an efficient company or if you are not so well staffed or do not have the funds, you could be in development for 20 years and you have next to nothing left before the generics come in and cash in on your efforts.

959. Is Britain worse off in that respect than other countries?

A. I do not believe so. We have the one curiosity that in the last years of patent life you may approach a company and demand the licence as of right, and that is unique to Britain. The whole issue of patent protection is worldwide, and the regulations will inevitably mean even a good company must take 10 to 15 years to develop a drug from first

[Chairman *Contd*]

discovery and, therefore, there is not a lot of profit-making life left.

960. The other question I would like to get your view on is the question of legal liability which one hears a lot about, particularly in the Uited States, which seems to have reached horrendous proportions in some cases. How much does that inhibit you?

A. I do not believe the industry is in general afraid of it. Certainly in the large international companies, multi-national companies, we tend to carry our own insurance for that sort of thing because laying it off to insurers is prohibitive, and also I think because we fundamentally believe we are not going to do damage to patients. None of us wants that to happen. It is hard to sustain that argument when Benoxaprofen is proving awkward twenty years after thalidomide—one might be accused of not having paid a lot of attention—but I think generally the standard of industry physicians and industry scientists indicates that people are really trying to do their best to ensure patient damage is not something that features in a particular drug development programme.

961. Did I understand you correctly? Do you say the companies carry the insurance?

A. Yes, the majority do. We have some insurance in Germany, but that is simply to because we chose to.

962. Irrespective of whichever country you market in?

A. We are increasingly willing to give a sort of indemnity cover which says, if it is a trial-related injury, we will be responsible for it.

963. That is during the trial period?

A. Yes. During a study. When it comes to marketed product, then obviously there are issues for courts. Companies tend to look to legal defences and court verdicts. Of course, as you know, the whole area is a little fraught because nobody had actually succeeded in successfully suing a medico-pharmaceutical company. There was the *Dalkon Shield* situation in the United States, but then they have gone bankrupt so as not to pay. There are strange laws about these things. Since you have brought up that area, there is one area I would like to mention, if I may. It is a peculiar one. We are a respiratory company and asthmatic patients have over many years now been tested using such compounds as histamine, methacholine and, indeed, allergen challenge as part of the reversability testing of their airways. We are now finding as a result of strict liability legislation that hospitals are being refused methacholine which is certainly approved for use in animals but has no licence for use in man; it is not a medicine, it is something toxic. One of our studies has ground to a halt because the people in Oxford cannot get supplies of methacholine. This has been a standard challenge test for a matter of years. The Department of Health is in a difficult position because it is not a medicine. Indeed, you are trying to promote the very reaction you wish to treat. But it is a standard test and is looked after by the asthma physician when there is bronchial constriction. That is going to produce a very serious situation in drug development in asthma if we cannot actually get these materials and use them to test the effectiveness of our drugs. This has come up only very recently.

964. Where does the solution to that particular dilemma lie?

A. We tried on our own and did not get very far. I think, in fact, we have to get the ABPI to take it up with the Department of Health, but obviously nobody does the development work for such an agent as you do with a medicine. You do not put it through toxicological tests, you do not do all the battery of studies that would be required to take a drug into man. It has been used for years by common acceptance. But it is going to give us a problem as a result of the new legislation. I have to take it up with the ABPI.

Lord Erroll of Hale

965. Could I put a point on quite another thing—the question of publishing reearch results and generally swapping information across national frontiers? As a German headquarters company you must be very conscious of the variety of European language. Would you say that specialist trained doctors and medicos and people engaged in this are able to overcome such language barriers as must be present always in your work, or is there a dominant language?

A. English is the language of medicine and science. I have a lot of sympathy with my colleagues in Boehringer Ingelheim because, while Germans appear to speak in general very good English, sometimes there are all sorts of problems of comprehension. Publishing is not such a problem because major scientific journals of the world tend to be published in English. I was lucky enough to live in Rome for four years, my mother was French, and I actually speak French and Italian, so we can have international meetings of a sort. But in general we manage in English broadly and that is, of course, to our advantage. The American companies tend to make everybody speak English because they can rarely speak any foreign languages. But apart from the French, who publish a lot of their own data in their own language, many companies of any size will want to get their data published in the English language because of the wider circulation.

Chairman

966. Time is running out. Are there any other points you would like to make before we close this sessions?

A. I do not think so, my Lord. I have enjoyed the debate and hope I brought a perspective to you that is a little different from the Health Service,

[Chairman *Contd*]

from the practice of medicine. It is an area that I have enjoyed enormously. We are getting some very good doctors and I think we are starting to produce some very good basic drug resarch, not only in this country, but in Europe. I would like to see the standards that we have talked about being suggested and introduced at above the company level because I think that would help us to be a much more effective and efficient group of research workers.

967. May I thank you very much for a very valuable contribution this afternoon. We appreciate very much your giving us your time and your views.

A. It is my pleasure. Thank you very much indeed for inviting me.

Memorandum by Mr P Styles MBE

Thank you for your letter of 3rd March asking for evidence on nine specific questions. BHTIC is a confederation of trade associations representing the interests of the health-care products industry and as such does not have direct company membership. You may recall that I suggested to the Sub-Committee that the 14 member associations forming BHTIC should be asked to provide evidence directly, and I understand that that was done. I hope that you will have had some useful contributions from them.

Although I expect eventually to receive copies of many of the submissions, most of these will arrive too late for me to attempt to produce an overall industry view. Nevertheless in the light of my long involvement with the health-care industry, particularly the high-tech medical electronic sector, I would like to offer my own views on the subject of research.

(a) The level of expenditure on research and development in the health-care industry, is, apart from the pharmaceutical and the high tech. electronic end of the market, abysmally low. In the high tech. area where the export market greatly exceeds the NHS market, the setting of priorities is in most instances product-led rather than market-led. That is to say, manufacturers conceive products which are likely to capture a significant part of an existing market rather than those satisfying the needs of the NHS. Indeed in many instances if a product was geared to satisfying the needs of the NHS rather than the wants of users, the export sales potential might be very poor.

The needs of the NHS are in any event very difficult to determine, since in many areas there appears to be an absence of any overall clinical planning policy, with the result that the manufacturer is dependent on distilling a number of individual opinions to reach a consensus.

The absence of any policy for the replacement of equipment is also a serious handicap to any product development planning.

There is a serious lack of information available to the industry regarding research projects under way in the NHS. Presumably all of these will be directed to meeting some present or future requirement of the NHS. Since almost all the successful research projects will require industry to take over production eventually, it is a pity that some way cannot be found to involve industry at an early stage without weakening the inventor or his employer from enjoying some benefit from a successful project. Perhaps research funding should be considered to be an investment for the health of the nation as a method of generating a cash cow which might benefit a particular department possibly at the expense of the nation.

(b) As discussed above, all too often expenditure on research and development in industry is devoted to improvements in existing products rather than developments to satisfy new or existing needs of the NHS. A company will always expect to obtain a return on its expenditure on R&D and it is usually far easier to identify a future growth in sales and profit from an enhanced product, than from an entirely new one. The NHS itself could help by identifying needs, and carrying out sufficient research to establish the magnitude of those needs, thus encouraging companies to invest. Needless to say, that market research would have to be based on a realistic estimate of the cost of the product. Clinicians and academics are notoriously bad at predicting the ultimate market price of their brain children.

Although there is no guarantee that priorities would change if resources were increased, nevertheless it is vital that more investment is made by the industry into R&D. The NHS could greatly influence the direction of any increased expenditure by assisting with the market research.

Increased investment into R&D can only come out of profits. The NHS is at present concentrating on buying the cheapest products available without regard for a company's contribution to the future of health-care. Profit is frowned upon, regardless of what the profit is used for. Many companies are so squeezed by the NHS on prices that they are forced to accept business at extremely low margins in order to survive.

There has to be an incentive for companies to put money into R&D. With low profits any investment needs to be supported by additional funding in the form of government grants etc. These grants are invariably specific product oriented removing much of the flexibility from the company, also requiring a great deal of work in preparing the grant applications. Surely a far better route for encouraging investment would be to allow all expenditure on R&D to be free from corporation tax. Additionally the declaration of expenditure on R&D would concentrate the attention of many companies on their deficiencies in this area. Across the board tax incentives would allow a company maximum flexibility to adapt to this rapidly changing market.

(c) I believe that the industry is adapting to the changing incidence of disease and new technology. Any changes required by changing population structures will depend on the policies of the DHSS and NHS determining how these changes are to be dealt with. Any change in the role of primary health-care facilities for example, could have a profound effect on the industry.

(d) Very little research in the medical equipment industry is funded by institutions. However institutions funding research in the NHS or Universities should have a clear idea of the possible commercial outcome of all projects. All too often a successful project is passed to foreign manufacturers in return for large up-front payments, beyond the capability of many equally competent United Kingdom companies. As mentioned above, an industrial partner at an early stage could bring many benefits.

(e) The answer to this must be an unqualified no. I am quite sure that all research work is eventually published somewhere, however the sheer numbers of scientific journals coupled with the delay very often before publication, presents a serious problem to an industry searching for potential winners. Early notification and involvement with the researchers would assist greatly. This might also help to solve the problems posed in:

(f) Perhaps it would be possible to have some form of register of research projects underway. At least other researchers would be able to communicate with possible duplicating teams, and industry would be able to make contact with the teams at an early stage in the project. The objectives of the research would need to be clearly stated.

(g) I believe that all product developments result in improvements in patient care. However a similar expenditure might result in greater improvement if properly directed.

(h) Medical reseachers should always bear in mind the final cost to the patient of the product or service they are researching. All too few research workers have any idea of industrial costing and acounting. Perhaps this should be part of their education. There is little point in developing a new product or technique if it is beyond the reach of the consumer.

(i) Apart from the tax incentives proposed earlier, grants for specific projects are virtually necessary in certain cases. Specifically it might be necessary to support research and development into a product when it is not clear whether a market exists. Aids for the disabled fall into this cateogy. An NHS committment to purchase may be the only viable market, therefore NHS funding is essential.

Two additional comments on the reluctance of industry to invest in innovative products. The first concerns the increasing requirement to satisfy national certification and product approval procedures. Over the last ten years in particular there has been a growth of national regulatory requirements making it extremely costly and time consuming to introduce a "new" product into the international market. It is understandable for governments to be concerned to protect their citizens against unsafe products. However, the fact that governments appear to be reluctant to harmonise and mutually acccept their requirements, suggests that protection of the domestic industry is of equal importance to the protection of the patient.

The second concerns product liability insurance. The introduction of a new, relatively untried product is likely to send an insurance company into a severe attack of nerves, particularly if the market is the USA, where incidentally an estimated 60 per cent of the market lies. The usual reaction is to reconsider the premium level to cover the additional perceived risk.

I hope that the foregoing personal views are useful to the Sub-Committee.

23 *April* 1987

Examination of witness

Mr PETER STYLES MBE, British Health-Care Trade and Industry Confederation, called in and examined.

Chairman

968. Good afternoon, Mr Styles. Thank you very much for giving up your time to come and talk to us this afternoon. You know of our terms of reference, I am sure, and we are very grateful for the note you sent us as a preliminary to our questioning this afternoon. Is there anything you would like to add to that note before we start questioning?

A. No, I do not think so, my Lord Chairman. I read it again and I did not think I would want to change anything or add very much to it. Perhaps one minor point about what I think is a very major point: that is that I believe this issue of collaboration between industry and research workers in the NHS and academia is an issue which needs to be addressed very carefully. I did organise, together with BHEC and the Department of Health, a conference earlier this year at Brunel Univerity which we called "Technology transfer, innovation and partnership", in which we tried to address some of the problems of co-operation between industry and academics and I feel still that conference did not reach a conclusion. We had hoped at the end of it to address some possible new guidelines which might be issued by the Department on co-operation but so far we have not achieved that objective. That is still open-ended and still to be addressed.

969. Thank you very much for that additional contribution. Perhaps we might start the questioning on the third line of your paragraph (a) in which you say, "... apart from the pharmaceutical and the high tech. electronic end of the market" research and development is "abysmally low".

A. Yes. When I took part in the ACARD working groups study on medical equipment——

970. I was going to ask you about that.

A. ——the evidence was quite clear—from information that working group obtained—that R & D expenditure was very low. I think the figures they came up with were 7 or 8 percent. from the high tech end of the market and around 2 percent from the lower end. It seems to me that even 7 to 8 percent is still rather low in my experience, and I ran a company in the United Kingdom for many years. We always spent more than 10 percent of our turnover on R & D. I think that is essential to keep up with the market.

971. On the other hand, if it is low tech do you need to have that high degree of research and development? I should have thought probably not—isn't the need for more imaginative marketing and ideas rather than R & D?

A. I still believe, although you may say perhaps implants and catheters are low tech, nevertheless there is a considerable amount of work and research which needs to go into those products.

972. I would not entirely call that low tech myself.

A. I think we are into semantics. I was thinking of electronics and imagining the end of the business which I would call the high tech end.

973. It seems to us there is something missing somewhere. I wonder if you can help us. We saw, for instance, during one of our visits to Middlesex examples of work being done on the application of lasers to arterial problems and so on. It was a very nice piece of equipment but, of course, the equipment was Japanese and, although the original work was all done here, the equipment which had been developed to exploit that work had, in fact, been picked up by a Japanese company and was being sold by Japanese. We were left rather puzzled as to why we have a situation where we do the original work and yet we do not develop the equipment that goes with it—it is developed by the Japanese.

A. Is that not the extent of the problem in so far as, unless there are companies in the United Kingdom prepared to put money into following up research which has gone on in hospitals and so on, they are quite likely to be left behind by other companies actually going into that investigation and picking up these ideas at an early stage? I think that the R & D does not start with what happened inside a factory, it is that you have to have the investigator out there keeping in touch with what is going on in the field. One of the major problems is how do you actually find out what is going on in hospital laboratories, biology laboratories and so on?

974. Industrial R&D must be related to the market potential, and I am wondering to what extent British industry has been discouraged by the purchasing policies of the NHS which have been pretty mercurial over the years; they have gone up and down like a yo-yo. If you do not see a reasonable market it is difficult to get people to agree to spend large sums on development?

A. Yes, I agree, particularly in the present climate where the emphasis is on saving cash now rather than later; in other words, if you make cash savings this year you get brownie points on your record, but if you spend the money now and make savings in five years you do not get applause. There is also a lack of an equipment replacement policy or even an equipment management policy.

975. Does that mean there is not a stable market which everybody can look at?

A. Yes. You have no idea what the market will be; as you say, it is mercurial. I think there are very few manufacturers of expensive equipment who can ever depend on the UK market; they have to look to overseas markets.

976. It is difficult to develop an overseas market if your equipment is not in use in the domestic market?

A. It is very much more difficult to develop a

[Chairman *Contd*]

good overseas market unless you have a good home market.

977. For example, to take a case we have come across, a piece of equipment has been developed by the Japanese. Presumably, it would have been developed for the Japanese market and then they sold it overseas; it would not have been developed simply for our market?

A. I doubt it. I think the Japanese must be very conscious that the major market is America and Western Europe.

978. Yes, but in order to exploit it my experience is that the Japanese develop the product in their own market first. Even in the case of their motorcars, radios and computers, they have all been developed in the home market before their launch onto world markets?

A. Yes. If you have a strong home market, presumably as the Japanese have, it is much less difficult to get into the export market later on.

Baroness McFarlane of Llandaff

979. In your paragraph (a) you differentiate between the needs of the NHS and the wants of users. Surely, the two should coincide?

A. Yes, but they rarely do. Very often the user wants the latest thing and that is not what he needs; he might need something which will satisfy the immediate requirement. The user is usually looking for something which will carry him a bit further forward. He does not need the bells and whistles, but very often he wants them.

980. You are suggesting that the export sales potential would be very poor if industry was geared to the needs of the NHS?

A. Yes, I am.

981. Rather than the wants of the user?

A. Yes. If one goes back to 1947 when the NHS came into being, one finds a very good example of what can happen. If one takes the X-ray machine industry, the Ministry of Health said they would place a large number of orders for X-ray machines but they had to be to their specification. They drew up specifications, but those specifications were not those required by overseas authorities. In the event, the specifications were wrong and the orders did not materialise. Whereas in those days we had perhaps a dozen X-ray machine manufacturers, today we have two or three. I am not saying the present situation is due entirely to that, but it was a major mistake for the Ministry to lay down specifications which did not meet the needs of the rest of the world.

982. Is there no liaison between industry and the NHS on this matter?

A. They tend now, not to lay down specifications. There was a time when they awarded a number of development contracts for specific pieces of equipment to their specifications. I do not think they have done it for a long time because they realised that those specifications generally are not what the world market wants. They might be the ones they want the NHS to have because they have been standardised and because high volume means low cost.

Lord Adrian

983. Has the development of private medicine provided a market place in which UK companies can develop? The move to private hospitals has been very marked in the last 10–20 years. One wonders why this has not provided a competing market place with the NHS?

A. I am sure it has had some impact, but the magnitude of it is not sufficient to show up as yet. The GP market, if that opens up, might have a very significant impact.

Lord Perry of Walton

984. I did not know, from the way your case was written, whether you were indicating that the British market was intrinsically too small to support the kind of industrial development you are talking about, or whether it was the single purchaser which was inhibiting development of what would otherwise be a large enough market?

A. I think both of them are disadvantages. This is a small market compared with the rest of the world; it represents 4% of the world market.

985. It is half as big as the Japanese market?

A. That is possible. I cannot think of any company which manufacturers only for Japan. To take the example on the laser side, it may have started with Japan, but it was not their only product; the rest of their products were exported all over the world.

Chairman

986. You mentioned the ACARD report which makes depressing reading. You said that you as an industry had not been able to persuade the Department of Health to have an imaginative purchasing policy which would enable you to progress with the excellent research base existing in this country. Why have you not been able to harness the support of the DTI, your sponsoring ministry, to make it effective?

A. I think we can provide two answers. One is that I think the industry is too fragmented; there are a large number of relatively small companies as you see from the ACARD report. Its representation has been fragmented as well in that there are some 16 or 17 trade associations, each representing its own sector. Even now, although the BHTIC has been put together to represent the whole industry, it is still not a cohesive body, and we stil do not have the same sort of organisation that exists in the States.

987. How long have you been in existence as a confederation?

A. Since last March.

[Chairman *Contd*]

988. You have not had much time to get to grips with the problem?

A. Absolutely not. The BHTIC as a council has existed since 1980. It came into being when the NHS decided to have a supplies council. Since there was to be industry representation on the council and the industry wanted to nominate such a representative, I was the representative for the life of the supplies council until it was dissolved in January of last year. I was still running my own company at the time. The supplies council was replaced by the Supplies Directorate, and then it was decided that the BHTIC should have some more permanent body and it was formed into a confederation in March of last year.

989. Has its formation been welcomed by the NHS, or are you just going to be regarded as another thorn in their side?

A. I think the present situation is that they really do not want to see this happen. It is very much easier for them, in the present climate, to deal with a fragmented industry; it is easier for the NHS. Although they pay lip service to the idea of having just one body to talk to, my impression is that it is a bit of a nuisance for them to have to deal with a single body which might have substantial lobbying power.

990. What about the DTI?

A. Most of the grant applications are monitored by the Supplies Technology Division of the Procurement Directorate. The industry has always had a good relationship with that division. It used to be called the Science and Technology Branch. There has always been a very good relationship between that branch and industry. That is a very good example of part of the DHSS which works with industry towards a common end—to improve the standards of equipment and to sponsor harmonisation in the overseas field in terms of regulation, control and so on.

991. They do not seem to have been very effective in helping you achieve international status?

A. No, but they have probably done as well as they could do with the resources at their command. It has been an excellent relationship.

992. Is it a question of resources, or a question of ordering policy or replacement policy?

A. If you are to set up a proper equipment management scheme which includes planning for replacement, you need to collect inventories of what equipment you have and data on how much it costs to run it. All that takes a lot of effort.

993. Does not the data exist?

A. In a few places, yes, but in the vast majority of cases it does not. For very expensive equipment they might know the figures, but for equipment below, say, £15,000, there is probably very little information available as to what they have got, and certainly no record of how much it has cost them to keep the equipment going.

Baroness McFarlane of Llandaff

994. Are you talking now about general practitioners or hospitals?

A. Hospitals. Very little equipment is bought by general practitioners, but I think it will become a larger market later on.

Chairman

995. You are referring to the NHS itself. What about the regional health authorities? Do they know what equipment they have?

A. I do not think so. That is why ACARD has addressed itself to the problem and has asked that resources be made available for proper equipment management to be instituted. I recently had a meeting with Baroness Trumpington on this issue; it was held in this building. She said that perhaps she saw the glass as being half full and I saw it as half empty. We both admitted that the job was only half done.

996. Do you know what the position is in other countries—for instance, Germany?

A. In Germany the new medical safety law will have a profound effect on equipment, because that law not only addresses the safety of manufacture, design and production; it also places a very strong requirement on the user to keep logbooks and records to make sure the equipment is used only by qualified people and is repaired only by qualified people. There is an example of how something is done by legal means, whereas here we have voluntary means and we do not have the resources to follow it up. There have been lots of publications by the Department advocating equipment management. HEI95 and 98 are very good scientific publications produced by the Scientific and Technical Branch. There is the advice, but it takes money to do something about it.

Lord Erroll of Hale

997. Of course, the German system is to a degree a paper one; it depends on the enforcement of law and it may crumble away unless there are lots of inspectors going round making sure the law is being observed. I do not think you can say that necessarily it is a very good system?

A. They have framed it in such a way that they do not have to be government inspectors. A hospital can appoint its own inspector, and a manufacturer can appoints his own inspector, providing he follows the rules. We are not talking about an army of government inspectors. It is a self-regulation system, very much in the same way that in the UK we are trying to get a system working in Europe based on quality assurance and good manufacturing practice—to make sure that the manufacturer has all the proper controls in place, rather than inspecting the equipment once it is made. We are in favour of manufacturers' declarations of compliance with standards rather than

[Lord Erroll of Hale *Contd*]

continual inspection of equipment. There has just been a meeting in Brussels and it rather sounds as if the Commission may be framing its new directive along these lines, which is very good news, because it gives countries flexibility without the need for an army of inspectors.

Lord Rea

998. Should there be a formal mechanism for the establishment of the cost effectiveness and also the cost efficiency of new and existing equipment? What are your thoughts on that?

A. I believe there should be. Again, you have the problem that you cannot assess the cost effectiveness of a new product unless you know how cost effective the existing products are. You are back to a similar situation in the equipment management field. You have to start collecting historical data before you can start looking at new techniques and products. Yes, I am very much in favour of it, but again I think there is a resource problem.

999. Do you think this body should be set up by a branch of government, such as the DHSS, or do you think it should be a partnership venture?

A. I think it should be controlled by the Department of Health. They are currently working on an options appraisal handbook, which I have not seen yet. If that mechanism is set up then it will be right to ask industry, when it is trying to sell some new equipment, to answer some questions posed by this body, but the Department are the best people to do it.

1000. Do you think it would help you in developing products which have a wider market appeal than simply the NHS?

A. I think it would help to increase the sales of products which really are useful. We are always slightly worried about cowboys who come up with flashy things which look very good in the brochure and are very nice, but when you instal them they do not come up to scratch. Therefore, evaluation in terms of how the equipment performs in the hospital, rather than merely checking that the machine does what the manufacturer claims, is valuable, and that is what we are referring to here.

1001. It would be a sort of Consumer Association testing ground, with official sanction?

A. Yes, and it is already being done, because HEI evaluation reports are being produced more speedily than before. Those reports are published by the Supplies Technology Division of the Procurement Directorate.

Chairman

1002. All equipment is subjected to the same tests?

A. Yes, and it is fairly done. At the end of the evaluation the manufacturer is allowed to comment on the final report and his comments are published with the report, so a potential purchaser can read the excuses, if you like, the manufacturer might make for why there are shortcomings in certain areas.

1003. Do you find that procedure an inhibitor in your research and development, or an advantage?

A. Almost all manufacturers welcome it. They were worried about the time it took to produce the report because there seemed no point in doing an evaluation which came out five years later, by which time the product was about to be phased out. I would also like to see use being made of material from other countries. Many other countries do evaluations. For instance, in Holland there is KEMA, which is a government organisation; in Sweden there is SPRI; and in the United States there is the Emergency Care and Research Institute. I would like some of those reports promulgated in the UK.

1004. Does one accept the ruling of the other?

A. No; they are all done according to slightly different protocols, but the information is useful to the purchaser. They do not allow one to make exact comparisons because the protocol is slightly different, but I think the information should be available if you are about to choose a new piece of equipment.

1005. So, a piece of Dutch equipment which has been approved by KEMA would not necessarily be acceptable to the NHS without it going through our approval process?

A. In terms of approval, if you mean, will it meet international standards? the answer is yes; presumably, any European equipment tested to international standards is accepted here.

1006. So, there is an international standard?

A. Yes, on electronic equipment. More and more standards are being given dual numbers. BS standard often have ISO or IEC numbers as well. It is not happening as fast as I would like, but it is moving in the right direction.

1007. You refer to the question of encouraging investment by allowing the expenditure on R&D to be free from corporation tax. Surely, if expenditure is allowed against profits it is free from corporation tax, is it not?

A. Yes. I must say that since writing it I have had another thought, and it is that as far as I can make out very few companies seem to pay very much corporation tax; there seem to be other ways of avoiding it. My own feeling is that it probably needs a rethink.

1008. I do not think there is much mileage down that road?

A. No. Also I do not believe the medical equipment industry is in any special position; I think we have had the same problem as UK industry

[Chairman *Contd*]

in general. There is nothing peculiar about the medical R&D side.

1009. You paint a very gloomy picture for the medical equipment industry in this country. What do you think we should do about it?

A. I think there are two things. First of all, I believe we ought to be spending more on R&D, not just on producing new equipment but on ergonomic design. A lot of our products are poor compared with overseas competition, in that functionally it might be all right but it just does not sell as well.

1010. Is that because of lack of liaison between the industry and the medical profession who are using the equipment and therefore are familiar with its ergonomics?

A. I think that particular problem arises because many manufacturers in the UK will not go out and hire assistance on the industrial design side. Even those who do very often get a very poor deal. There are a lot of industrial designers, good and bad, and it seems difficult to choose the right one. You need somebody of whom you have experience, and you need to go outside to get the right expertise in many instances. The second point is to try to encourage closer co-operation and a greater flow of information; we need real partnerships to be set up between innovators in the NHS and industry. If you think you can sell an idea or transfer it to industry and let them get on with it you have to have that co-operation.

1011. That has to be done very much man to man?

A. Absolutely, and that is why I believe we took a major step back wards when a paper was published about five years ago on inducement and corruption. I know for a fact that a number of people I co-operated with in the NHS really took a step back when that paper came out, because it pointed to the dangers of getting too close to a particular company, particularly if you were involved in the choice of equipment. Most clinicians in the hospitals are involved in the choice of new equipment. They felt that if they got too close to one particular company and their equipment was chosen they might be accused of being corrupted by that company. Therefore, there was a tendency to take an idea and spread it around a number of companies. That is not the way to get a successful product; the best way to do it is to co-operate with one company entirely and make sure that company is of sufficient size in the market to make it successful.

1012. That does not seem to inhibit people in the United States who seem to be close to individual companies?

A. Yes, absolutely.

Lord Adrian

1013. Or the Japanese, who pick up ideas in this country in the open by going to meetings and exploiting them? I find that answer, frankly, unconvincing. Do manufacturers go to scientific and medical meetings where ideas are published and spoken about freely? Do they go out and look for ideas?

A. Yes, but not enough.

1014. The Japanese do it. It seems to me there is a gap there. I hesitate to call them "excuses". I think "explanations" is perhaps a better way of putting it. Many of the successful companies do it, particularly when they come from abroad?

A. The reason why manufacturers do not go out to scientific meetings is because they do not have the right staff. You have to reach a certain critical mass. My own company has a clinical research department which has three people who are devoted entirely to going to technical meetings and scanning scientific papers, but that is very unusual.

1015. I am aware of that.

A. Organisations like the Biological Engineering Society have set up industrial liaison groups. The idea was to try to bring academics and industry together. That has never been successful; it has met only a few times. I am not sure why that is so, but I agree with Lord Adrian; it is a problem.

Lord Adrian] I do not know who it indicts, but it is an indictment.

Chairman

1016. Does the United Kingdom need its own medical equipment industry? I suppose one might say that it does not because it can buy all it needs from others, so why bother? It is the job of your association to make it clear it is an industry is well worth having?

A. I would say that the UK needs a medical equipment industry in the same way that it needs other industries if it is to generate income, improve the balance of payments and provide employment. Does the NHS need it? Probably, it does not; it could probably buy everything it wants from overseas, but there would be strategic problems in the same way that there would be problems if we bought all our fuel and food from overseas. I think there are certain things which the UK does need to have manufactured here: for instance, limb fitting has to be done in this country. If you look at the NHS, it could probably get most, if not all, it wanted from overseas.

Baroness McFarlane of Llandaff

1017. If the buying policies of the NHS are such inhibiting factors, can one look at dental equipment? That equipment comes almost wholly from outside the UK, and yet there is a large market provided by private or independent practitioners?

A. That is the only market.

1018. I wonder why that industry has ceased to be in this country?

[Baroness McFarlane of Llandaff *Contd*]

A. I do not know. I mentioned the X-ray equipment earlier which to an extent has gone overseas. The UK has decided that its major investment will be in the United States. Picker, a major company, is now almost a US manufacturer only for X-ray equipment.

Chairman

1019. It happens to be British-owned?
A. Yes.

1020. The reason is that it can make and market the product only in the American market because of lack of support in the British market?
A. Yes. That is why a number of companies like Picker have purchased companies in the United States; that is the best way of getting into that market—to manufacture there—because that is where 60% of the market is.

1021. Has the industry really made a case; has it made the case that the medical equipment industry in this country is a good one to have, given the size of the world market and the size of the imports to be saved by having an active industry?
A. I think we have done it both through the ACARD report and through a number of other reports which preceded it, one from Prof McSayers of Imperial College and one from the National Electronics Council. All of them have said that the industry should be encouraged and there are things which need to be done to assist it. The ACARD report had 14 recommendations, but very few of those recommendations are presently in effect.

Chairman] You said earlier that what we needed was more research and development, but that is really the cart which comes after the horse. The horse is to determine that we need a good, strong industry and that it has the support of various government agencies, whether it be the DTI or NHS.

Lord Kearton

1022. It seems that the battle has been lost. I agree with your sentiments, but it seems that the market has largely gone to overseas manufacturers. Getting it back will be an impossible job?
A. There is still a positive balance of payments.

1023. That is a multiplicity of small items?
A. Across the board there is a positive balance of payments. It was declining, but in 1986 it recovered quite sharply.

1024. This is medical hardware?
A. It is everything except pharmaceuticals.

Chairman

1025. Could we have those figures?
A. They are in the ACARD report.

Lord Kearton] I am glad I am wrong.

Lord Perry of Walton

1026. I suspect that, as to a great many of the recommendations which have been made, the industry would say it has been unable to implement them because they have not had the inclination or money to put the R&D in. That should come before the development of the market; the increase in the market tends to follow. I take it that does not happen?
A. I think most of the recommendations of the ACARD report were addressed to the NHS and DHSS. One of those addressed to the industry and the DHSS was the question of trying to get increased co-operation. We addressed it by organising the Brunel Conference. I admit it was really tickling the problem, but we felt we ought to encourage the DHSS to produce some new guidelines. The last NHS speaker said he did not think any guidelines were necessary; there was not a problem. When you have that sort of response you wonder where to go from there.

Baroness Lockwood

1027. You say in your paper that very little research into medical equipment is conducted by institutions. How close do you try to get to the MRC and to the teaching hospitals?
A. Very close to the teaching hospitals. There is very little direct contact with the MRC because the MRC generally do not get involved in the product areas. Many manufacturers support SERC projects and do have relationships with hospitals and teaching hospitals in that way. A lot of research which is going on in hospitals is funded by industry. My experience is that if a hospital comes and says, "We have an idea", the first thing you do is look for money. I do not know how to express it, but there is not the idea that we will be forming a partnership and we will work together on it and the benefits which come out of it will be shared. That was what we tried to put forward at Brunel. We should not look at partnerships where one is a milch cow for the provision of money and the other is a milch cow for the provision of ideas; I do not believe we should do that. There should be a partnership where everybody is prepared to take the benefits and also the losses if the project is not successful.

Chairman

1028. You argue in your paper that some form of register of research projects should be kept. Who should do that?
A. I think it can only be done by the Department or NHS. I felt it should be a self-financing exercise; in other words, you would offer to keep member companies informed of projects going on throughout the NHS and DHSS.

1029. But not informed of what is going on in other companies, which would not be very welcome?
A. No. You can get a lot of that information from published papers; you can buy scientific

[Chairman *Contd*]

papers or abstracts from one of the engineering institutions; you can scan through the whole lot, but I know from experience that it is a very time-consuming job. What you really want to know is what research is going on in hospitals so you can make direct contact with the department concerned in particularly interesting areas.

1030. I find it difficult to get enthusiastic about central registers.
A. Does it not work in the MoD?

Chairman] They get out of date and you do not get the right information.

Lord Perry of Walton[If you look at the published annual reports of the universities, you will see the claims made for the projects going on; they are very extensive and they stay the same for 20 years. They stake a claim to particular areas and say, "Keep off." I do not think it is of any use at all.

Chairman

1031. You have to have people going round to find out what is going on?
A. Is that not what the Government broker does on the MoD side? He finds out what is going on in defence research and tries to find a market for it?

1032. That is not so difficult from his point of view because he is probably paying for a lot of it?
A. But the NHS is paying for a lot of this, though not necessarily directly; it is all being funded by the NHS.

1033. Is there any other point you would like to make? It seems to be an area where a lot needs to be done. It is a rather depressing story and bears out the impression going about.
A. I would just like to concentrate on the equipment management side; I think it is absolutely vital that we have an effective equipment management and replacement policy in the United Kingdom.

1034. Equipment management in the NHS?
A. Yes.

Lord Perry of Walton

1035. Could I ask what might seem a daft question? If all the recommendations made were acted upon by the NHS and there was plenty of money, would the industry be able to become competitive on a worldwide basis? Is the industry in a position to do that?
A. I think the industry is competitive in this country at the moment. You cannot buy everything from the industry, and I do not think you can ever expect the UK industry to provide everything the NHS needs, but in those areas where it is supplying equipment it is very competitive with overseas manufacturers.

Lord Erroll of Hale

1036. It is an industry of specialisation. We do some things very well and other countries do other things very well. We should not aim to have a situation where we are making all our own equipment at the expense of specialising in something which we do very well. That is a possible view?
A. Yes. I would not be worried at all if all our dental equipment was bought from overseas provided we are supreme in some other area: for example, MRI (magnetic resonance imaging) and the neurological field. We should not try to do everything.

Chairman

1037. I agree very much. We should pick up those areas where we are good at it and see that the whole effort of the industry and government agencies is directed to maintaining it and exploiting it to the maximum?
A. Yes.

1038. Do we back up success?
A. Yes, I think we do. If you look at the expenditure of the DHSS on R&D, a very substantial part of that goes into MRI.

1039. Do they spend money in that areas because it is successful or is it successful because they spend money on it?
A. I think it is both. On the other hand, they spend a lot of money on aids for the disabled for which there is not an enormous market. They need to spend money there because nobody else is prepared to do it since the returns are too low. That is an area where the expenditure is fully justified, because if they did not expend it nobody else would.

1040. If the MRI project as funded by the MRC does not prove cost effective, where does it lead us?
A. Most of the studies going on now are to establish the cost effectiveness of magnetic resonance imaging; they are trying to discover if it might be a good idea to expand the number of MRI systems because it will bring benefits in other areas. That is a good example of looking at the cost of a new technique to see whether by spending that money now you can make savings in the long term by getting a faster diagnosis. Not all of that expenditure, but a lot, is directed towards assessing the value of MRI.

Chairman] If there are no other points, thank you very much, Mr Styles, for giving us your time. We have appreciated your evidence; it has been most useful.

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HOUSE OF LORDS SESSION 1987–88

MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

Thursday 29 October 1987

COMMITTEE OF VICE-CHANCELLORS AND PRINCIPALS

Mr M Shock, Sir Edward Parkes, Professor G McNicol and Dr B B MacGillivray

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ECT COMMITTEE ON SCIE
AND TECHNOLOGY

SUB-COMMITTEE

THURSDAY 29 OCTOBER 1987

Present:

Adrian, L.	Perry of Walton, L.
Flowers, L.	Rea, L.
Hunter of Newington, L.	Sherfield, L.
Kearton, L.	Smith, L.
Lockwood, B.	Taylor of Blackburn, L.
McFarlane of Llandaff, Bns.	Warnock, Bns
Nelson of Stafford, L. (Chairman)	

Memorandum by Committee of Vice-Chancellors and Principals

1. The Committee's response to the Sub-Committee's enquiry is based on observations from universities some of which will also be making directly their own individual submissions. The enquiry is wide-ranging and we would emphasise the complexities of medical research. There is a close relationship between clinical research and basic research in the pre-clinical, biological and physical sciences; medical research ranges from fundamental to applied and developmental; and there is also a substantial amount of activity in the form of research enquiries which are carried out by means of surveys, clinical trials, and statistical exercises much of which have practical outcomes and relevance to the NHS and the health of the community.

2. We offer some general comments before responding to the nine specific questions posed by the Sub-Committee.

UNIVERSITIES' INVOLVEMENT IN MEDICAL RESEARCH

3. Most of the country's fundamental or basic research and an increasing amount of its strategic and applied research is carried out in the universities. Nineteen of the universities have a clinical medical school, and within London University there are nine medical schools. Thirteen of the universities have dental schools. In addition to providing all the undergraduate education and training of the nation's doctors and dentists and contributing to patient care, clinical academic staff provide most of the clinical research on which the future of the NHS depends. This is supported on the one hand by UGC funding and on the other by the Medical Research Council, the medical charities and foundations, and industry, particularly the pharmaceutical industry and the NHS. The teaching and research activities of the most academically-able doctors in the university medical schools and their associated teaching hospitals are vital to the NHS and to the extension of the frontiers of medical knowledge.

4. Research undertaken in non-clinical departments—science, engineering, social sciences—in universities with and without medical schools—also makes a significant contribution to the Health Service and to the health of the nation. Much applied research and development work in these departments is carried out in close collaboration with the pharmaceutical and medical equipment industries.

FUNDING UNIVERSITY MEDICAL RESEARCH

5. We are seriously concerned about the inadequate funding of the dual support system and we are glad to see that the Select Committee indicated in its report on "Civil research and development", November 1986, that it considered both parts of the dual support system were inadequately funded. We will not elaborate further on the substantial decline in real terms[1] of UGC funding or on the financial stringencies of the research councils but would note that universities faced with cuts in public funds have looked increasingly to other sources of funding. In regard to medical research, a particularly valuable source has been the charities and foundations. As noted in paragraph 6(d) below however, universities' success in obtaining funding from the charities and foundations and also the pharmaceutical industry has had the side-effect of heavy pressure on the university side of the dual support system as indirect costs are rarely provided for.

6. Medical research in the universities has been affected by the decline in UGC funding and consequent general freezing of vacant posts which has particularly affected clinical academic departments, and by the shortage of funds in the research councils. As a result:

(a) Between 1981 and 1985 the decrease in the number of clinical academic staff funded wholly from university sources (that is, UGC) and expected to combine teaching, research and patient care was 12.7 per cent. The National Association of Health Authorities survey last year estimated that the loss of staff between 1981 and 1986 was the equivalent of one complete medical school; this we believe to be an under-estimate. Posts have been downgraded and chairs lost. Research has suffered as clinical academic staff understandably put their obligations to patient care and teaching first.

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[1] As measured by the Index of university costs.

(b) There are fewer UGC funded clinical academic staff, their situation in regard to overall financial reward is less favourable than that of their NHS counterparts, and they now have to spend more time on the administrative tasks involved in obtaining money from other sources, at the expense of research and other activities. Medical schools are experiencing difficulties in recruiting and in retaining the most able teachers and researchers. In some specialties, the high financial rewards of private practice also attract away some of the most able.

(c) Success in obtaining money from other sources has led to a substantial increase in the number of clinical academic staff funded from other than university sources (that is, charities, industry, NHS). It is important to note that much of this funding is for research projects of a relatively short-term nature.

(d) While the contribution of charities and foundations to medical research has been substantial, their grants do not normally make provision for the indirect costs associated with the projects which are necessarily incurred by universities and which therefore have to be met from universities' general recurrent income, so weakening further that leg of the dual support system.

(e) The MRC funds the best of the alpha rated projects submitted to it but is no longer able to fund all alpha projects. Like all research councils it increasingly attempts to target its funding to specific priority areas which carries with it the danger of limiting too far the opportunities for the most able scientists to follow their own creative insights in developing new basic research lines.

7. Government support for genuinely innovative research in universities—all universities—is inadequate, and in regard to medical research this is hidden by universities' own success in attracting external "tied" money—which sets its own priorities—from the charities and the pharmaceutical industry.

Priorities in Medical Research

8. Setting priorities for research in any area is fraught with difficulties as research by its nature proceeds at an unpredictable rate and new developments in one field may open the way to research in areas previously unthought of. The funding of medical research as of other research must provide flexibility to allow research to flower in unexpected places. This is particularly important in medicine, and never more so than at the present time in the wake of the revolution which is taking place in the biological sciences.

9. We make the following points in response to the specific questions raised by the Sub-Committee:

(a) *How are priorities for medical research set?*

10. Within the individual medical schools priorities are set in the light of: (a) the special interests, aptitudes, expertise and research interests of individuals and departments, and their ability to get funding; and (b) the concerns of the main funding bodies, primarily in present circumstances the medical charities and secondly the Medical Research Council. In general, the allocation of research funds takes place both within the MRC and the recognised charities and within the medical schools themselves on the basis of peer review of scientific merit and of clinical and fundamental importance.

11. University medical research is in general directed more to scientific clinical needs than specifically towards meeting immediate NHS needs, apart from cases where the national funding bodies reflect stated national needs. In Scotland there are specific arrangements whereby the Chief Scientists' Committee of the SHHD and its sub-committees on which the universities are well represented annually review priorities for medical research.

(b) *Is the present balance between different branches of research right? What has higher and lower priority and would priorities change in the light of increased resources?*

12. The answer to the question of whether the present balance between different branches or areas of medical research is right would depend on comprehensive information being available on resources devoted to the various branches and to a concensus of judgement on the value of each of these. Within the existing arrangements for Government funded research through the MRC, the SERC and the major charities—all with established peer review systems—we believe the major growth points are satisfactorily identified. Given the cost of most research of high quality, more encouragement needs to be given to collaboration in regard to inter-disciplinary research. But our primary concern is that overall research funding for longer-term basic research through the UGC and the research councils is inadequate and that a

disproportionate amount of university research effort is therefore devoted to short-term specific areas of applied needs for which external funding is more readily available.

13. As resources are always limited, there is a case for higher priority being given to research likely to lead to greater benefit for the greater number of people, for example, into potentially preventable disease with high mortality or morbidity, especially in the population below the age of 50, to research related to the treatment and maintenance of the quality of life of an ageing population (for example, dementia and incontinence in the elderly), and to such areas as nutrition, degenerative arterial disease and cardiac surgery and transplant surgery. Not all of these are popular research areas. Nevertheless, while drawing attention to these areas, we would not wish higher priority to be given to them at the expense of basic scientific and medical research.

(c) *Are priorities in medical research adapting to changing incidence of disease, changing population structures, and new technology?*

14. In general yes, but with responses to new technology being more immediate and widespread than those to changes of incidence of disease (with AIDS as an exception) or of population changes. However, priorities in medical research largely reflect the availability of resources and the glamour associated with high technology clinical science and are not necessarily related to health problems of greater importance to the community. They also relate to what is solvable, what is interesting, and what is popular. Again, limitations on funding for medical and scientific research impose limitations on speed and extent of adaptation to changing circumstances.

(d) *How are priorities in medical research influenced by the institutions through which research is funded? How does the balance between public, commercial and charitable funding affect the setting of priorities by the institutions?*

15. As indicated in paragraph 10 above, university medical research is inevitably influenced by both the availability of resources and by the research interests and expertise of staff. Medical schools to some extent control acceptance of research grants in order to ensure that space and other resources are not overburdened, but otherwise do not inhibit staff from seeking research funding from outside—success in which is one of the criteria of UGC selective funding allocation.

16. The balance of university medical research is therefore, in current circumstances of an inadequately-funded dual support system, heavily weighted towards projects funded by the medical charities. The well-known priorities of charities whose funds derive from public subscriptions undoubtedly influence the focus of applications, as do those of the pharmaceutical industry. Medical conditions which do not have public appeal will be ignored because of a lack of funding. While the major charities and the public sources of funding attempt some measure of information exchange, they naturally put their special interests first.

(e) *Are the results of research adequately disseminated?*

17. Yes. The results of research are adequately disseminated nationally and internationally in publications, journals and conferences, by presentations at specialist scientific meetings through the Royal Colleges, research societies and institutions and the universities, and more broadly through the undergraduate, postgraduate and continuing education of biologists, medical students and doctors. The problem is not one of dissemination but of meaningful consideration, evaluation and implementation, as indicated in paragraph 19 below.

(f) *How is unnecessary duplication of research effort avoided?*

18. This is not a major problem. It is controlled through peer review in the refereeing of grant applications by the funding bodies and by informal liaison between funding bodies. Competition, national and international, is a major stimulus to research and some overlap within given areas is desirable to provide independent confirmation of results, particularly in medicine where it is important that research results should be open to the challenge of similar work being done by other means in different laboratories so that difference in interpretation may be made or findings confirmed.

(g) *Is research reflected as it should be in actual improvements in patient care or health education? If not, why not?*

19. In fundamental work there may be a long time lag between basic discoveries and improvements in patient care and health education. Some findings need long and complicated clinical trials. Discrete clinical procedures for clearly demonstrable value and commercially important exploitable techniques are both usually quickly adopted. But activities that involve changes in practice or impinge on other services and have implications for policies and budgets outside the medical research area are introduced far more slowly, if indeed at all. Obvious examples in the health education area are the Black report (on national differences in health), alcohol, smoking. Some new advances may benefit only a few people, for example,

organ transplants, and their introduction has to be balanced against other improvements benefitting large numbers.

(h) *What changes in priorities in the training of medical researchers are needed?*

20. Able young scientists need to be attracted to research at the undergraduate stage and at the junior doctor training level they need to have sufficient opportunity of pursuing research in a more stable funding situation and with clearer career prospects. We are concerned that these needs are not adequately met.

21. In the past, MRC support for an additional year in the medical undergraduate course to take an intercalated honours science degree provided a valuable initiation into medical research. We regret that the MRC's support for intercalated courses has had to be drastically reduced and hope that the special case of intercalated awards will be examined within the review of student support being carried out by Mr George Walden.

22. A major anxiety concerns the training stage of young doctors. The length and rigidity of the formalised specialist registration training programme in medicine discourages people from taking research posts early in their course, and after professional accreditation has been obtained the salaries of the research training posts are insufficient to attract doctors away from continuing with service opportunities. Junior doctors face a rigidity combined with short-term appointments in their career structure in most medical specialties which does not encourage taking time for research.

23. Junior medical staff in the training grades in the medical schools require honorary NHS appointments to enable them to undertake clinical work. It is important that the necessary manpower planning at the Senior Registrar grade under the agreed joint planning arrangements and at the Registrar grades in the light of the DHSS consultative document "Hospital Medical Staffing—Achieving a Balance" should not limit the research opportunities of clinical academic staff, and we are glad to be represented on the relevant bodies concerned with manpower planning in these areas.

24. Medical research depends on advanced technologies and, as mentioned in paragraph 12 above, much more emphasis needs to be placed on collaborative interdisciplinary research between people educated and trained in medicine, basic biological sciences, physical science, and in technology. There are already many encouraging signs of change in this direction, including for example the appointment of basic scientists in clinical departments, though such developments are inhibited by lack of funding.

(i) *Should any specific changes in organisation or funding be made in order to increase the quality, quantity or application of research?*

25. We believe that the following changes taken together would increase both the quality and quantity of medical research, particularly in regard to new innovative work:

(a) strengthening the dual support system by increased Government support for the funding of the UGC and the research councils which would attract more young academic scientists into research and attract some of the best scientists back from abroad;

(b) changes in the requirements of specialist training and in the manpower planning and organisation of the career structure of young doctors in the training grade;

(c) development of firmer policies throughout the system, including inside the universities, for ensuring that there is the closer collaboration mentioned above in paragraphs 12 and 24 between clinical and non-clinical scientists, particularly the biological scientists; and

(d) achievement of a better balance in the medical schools between research, teaching and patient care which in current circumstances has tilted away from research to teaching and particularly to the delivery of service.

8 May 1987

Supplementary Memorandum by the Committee of Vice-Chancellors and Principals

A. INTRODUCTION

1. The major problem in attempting to quantify the cost of university research is that teaching and research are so closely interrelated that expenditure cannot be clearly divided between them. The same academic staff teach and do research, and the same accommodation, equipment and supporting staff often serve both purposes. A notional apportionment of expenditure on research from general university funds is usually made on certain assumptions, one of which is that on average some 30 per cent of

academic staff time is devoted to research. Estimated expenditure on university research is based on these assumptions.[1] (See paragraph 14 below.)

B. EFFECTS OF STAFF AND FUNDING REDUCTIONS IN THE MEDICAL SCHOOLS

Clinical academic staff

2. Between 1980/81 and 1986/87 there was a net loss of 551 full-time wholly university financed clinical academic staff from the 18 universities with medical schools in Great Britain, a reduction of 21 per cent.

3. Replacing these staff at current salary rates would cost about £14 million. This is based on an average salary, and salary-related, cost of £25,000 per member of staff and does not take account of associated indirect costs.

4. During the same period, 1980/81 to 1986/87, there has been an increase of 1,106 in the number of full-time clinical staff not wholly university financed, that is funded wholly or partly from the non-UGC sources (for example NHS, MRC, DHSS, medical charities, industry, etc.). This is an increase of 148 per cent and reflects the significant growth of external research income during the period. Much of this also represents a further indirect cost burden on the UGC resources available to medical schools, and a shift in the balance between specific research activity and curiosity driven research. [See also paragraph 17 below.]

Clinical academic salaries

5. Until the Government's recent public expenditure statement, the cumulative shortfall up to 1986/87 in the provision through the UGC to meet the cost to the universities of increases in clinical academic salaries was £14.8 million at current prices. This shortfall results from the difference in every year since 1982/83 between the cost to the universities of clinical academic staff pay awards and the amounts provided by the Government in grants to the UGC. (There is broad comparability of remuneration between clinical academic staff and their NHS counterparts whose salaries are determined by the Government in the light of advice from the Doctors and Dentists Review Body.) The attached table shows the size of the shortfall in each year. In the announcement on public expenditure for 1988/89 and later years the Government has made provision for the extra cost to universities of the 1987 clinical academic pay settlement. A shortfall of £13.5 million remains from earlier years.

6. The total clinical academic salary bill for universities in 1987/88 is £75 million. The cumulative shortfall therefore represents 18 per cent of the total. The overall bill for clinical and non-clinical salaries in universities is £916 million in 1987/88, of which the clinical element is 8 per cent.

The equipment needs of medical schools

7. Medical schools, and universities as a whole, have been seriously underfunded for many years for the replacement of ageing and obsolete equipment. The UGC estimated in 1984[2] that the accumulated deficit at 1984 prices in the value of the equipment grants awarded to universities since 1972 compared with an assessment by DES officials and the UGC of universities needs was £386 million (£449 million at January 1987 prices) over all subject areas. Most of this deficit was accumulated between 1974 and 1980, but the shortfall between 1980/81 and 1984/85 alone was £80 million at 1984 prices (£93 million at January 1987 prices).

8. Clinical medicine accounts for 11 per cent of the total expenditure on equipment in all academic departments of universities. (See also paragraph 15 below.) It is our judgement that medical schools each require on average some £2 million to £3 million over a three year period to enable them re-equip clinical departments. The total for the 29 medical schools in Great Britain (including the nine undergraduate and three postgraduate medical schools in London) over three years would be about £75 million.

C. TOTAL UNIVERSITY INCOME

9. The total recurrent income of universities in Great Britain from all sources in 1985/86 was £2,295 million, including £1,312 million from Exchequer grants allocated by the UGC.

10. The Government has announced in the 1987 Autumn statement that universities will receive an additional £61 million in 1988/89 and later years. The greater part of this will be earmarked for

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[1] "A Strategy for Higher Education into the 1990s", UGC, September 1984, paragraph 5.4.

[2] "A Strategy for Higher Education into the 1990s", UGC, September 1984, paragraph 8.29 and Annex F.

restructuring, including early retirements, new blood posts and rationalisation. It also includes £3.25 million for the additional costs of the clinical academic pay settlement in 1987 (see paragraph 5 above).

11. The sources of income for universities in Great Britain in 1985/86 were as follows:

RECURRENT	*£m*	*%*
UGC recurrent grant	1,312.0	57
Tuition fees, home and EC Students	180.2	8
Overseas student fees	124.6	5
Other general recurrent income	141.2	6
Specific income for research and other services	537.2	23
Total	**2,295.1**	**100**
EQUIPMENT AND CAPITAL		
UGC equipment and furniture grant	94.6	
Other non-recurrent exchequer grants	16.8	

12. The breakdown of specific income for research and other services, (£537.2m), including short courses, and from endowments and donations is shown in the attached table. Clinical medicine accounts for nearly 30 per cent of the total specific income for research and other services of all academic departments of all universities in Great Britain.

13. As teaching and research are so closely interrelated it is not possible to separate clearly teaching and research expenditure. For the purposes of the Government's Annual Review of R&D Expenditure the UGC provides a broad estimate of expenditure on research, based on an assessment of the time spent by academic staff on teaching and research activities. The UGC's estimate of the total expenditure on research from universities' general recurrent income (UGC grant and fees) in 1985/86 was £670 million.

D. EXPENDITURE ON CLINICAL MEDICINE

14. Expenditure on clinical medicine in 1981/82 and 1985/86 from general recurrent income (UGC grant and fees) of the 18 universities in Great Britain with medical schools was as follows:

	Actual £m	*Constant (at 1985/86 £m prices)*
1981/82	84.1	107.3
1985/86	111.3	111.3

This expenditure covers academic and academic-related staff salaries (about 66 per cent of the total), other salaries and wages, consumables and other current costs of clinical departments in medical schools. The academic staff costs in these figures cover both clinical and non-clinical staff, academic and research staff, and staff paid wholly or partly from university funds. Clinical medicine accounts for about 11.5 per cent of the total academic departmental expenditure from general recurrent income of all universities in Great Britain.

15. Expenditure from UGC equipment grant on clinical medicine was as follows:

	£m (actual)	*£m (constant)*
1981/82	8.1	10.3
1985/6	9.3	9.3

E. EXPENDITURE ON PRE-CLINICAL MEDICINE AND BIOLOGICAL SCIENCES

16. Total expenditure from general recurrent income on pre-clinical medicine and other biological sciences was as follows:

	£m (actual)	*£m (constant)*
1981/82	116.4	148.4
1985/86	144.8	144.8

[The definition of subjects included in pre-clinical medicine changed between 1983/84 and 1984/85 and may have had a marginal effect on the figures.]

The figures for expenditure on pre-clinical medicine and other biological sciences includes universities which do not have medical schools but which undertake medically related research in non-clinical departments.

F. Numbers of Clinical Academic and Research Staff

17. The following figures show the reduction of numbers of full-time wholly university funded clinical academic staff in universities with medical schools in Great Britain, and the increase in numbers of clinical research and other staff who are not wholly university financed:

	Full-time wholly university financed clinical academic	*Full-time clinical academic staff not wholly university financed*
1980/81	2,655	749
1986/87	2,104	1,855
Change	−551 (−21%)	+1,106 (+148%)

CLINICAL ACADEMIC SALARIES

Shortfall in the years 1982/83 to 1987/88 in the provision by Government to meet the costs of clinical academic staff pay awards

Financial Year	*Cost of award*	*Funding shortfall*	*Compensation provided*	*Included in baseline*	*Cumulative shortfall in baseline*
1982/83	6%	2%	1.4%	1.4%	0.6%
1983/84	8.8%	5.3%	4.6%	—	5.9%
1984/85	6.9%	3.9%	—	—	9.8%
1985/86	6.4%	3.4%	—	—	13.2%
1986/87	6.6% (but 8.8% in a full year because award was phased)	4.2%	1.07%	—	19.6%
1987/88	8.3%	2.3%	4.05%	4.05%	17.9%

UNIVERSITY INCOME FROM NON-UGC SOURCES

The following figures show the growth of income to United Kingdom universities from non-UGC sources in recent years for research and certain other purposes.

A. Total Income from Research Grants and Contracts

	Actual cash figures £ million	*Constant prices** £ million	*Index of University recurrent costs**	*Real terms growth 1981/2–1985/6*
1981/2	225.196	287.297	107.7	
1982/3	262.819	314.285	114.9	
1983/4	305.880	348.201	120.7	
1984/5	353.549	381.900	127.2	
1985/6	416.020	416.020	137.4	45%

Within the above totals:

	Actual cash figures *£ million*	*Constant prices** *£ million*	*Percentage of above totals*	*Real terms growth 1981/2–1985/6*
1. *Research Councils*				
1981/2	104.131	132.847	46%	
1982/3	119.168	142.504	45%	
1983/4	135.479	154.224	22%	
1984/5	147.453	159.277	42%	
1985/6	162.194	162.194	39%	22%
2 *Other central and local Government*				
1981/2	45.201	57.666	20%	
1982/3	51.523	61.612	20%	
1983/4	64.316	73.215	19%	
1984/5	68.661	74.167	19%	
1985/6	79.655	79.655	19%	38%
3. *United Kingdom industry and commerce* (including public corporations)				
1981/2	22.987	29.326	10%	
1982/3	27.031	32.324	10%	
1983/4	32.664	37.183	11%	
1984/5	47.688	51.512	13%	
1985/6	59.315	59.315	14%	102%
4. *United Kingdom based charities*				
1981/2	34.950	44.588	16%	
1982/3	42.567	50.903	16%	
1983/4	49.731	56.612	16%	
1984/5	57.230	61.819	16%	
1985/6	72.757	72.757	17%	63%
5. *Overseas bodies*				
1981/2	9.904	12.636	4%	
1982/3	13.399	16.023	5%	
1983/4	17.275	19.665	6%	
1984/5	21.458	23.179	6%	
1985/6	28.673	28.673	7%	127%
6. *Other bodies*				
1981/2	8.053	10.274	4%	
1982/3	9.131	10.919	3%	
1983/4	12.402	14.118	4%	
1984/5	11.059	11.946	3%	
1985/6	13.425	13.425	3%	31%
Total non-Research Council income (that is 2 to 6 above)				
1981/2	121.065	154.450	54%	
1985/6	253.825	253.825	61%	64%

* *Note*: Constant price figures are expressed in 1985–86 values based on the Index of University Costs (Tress-Brown Index); Nov 1980 = 100.

B. INCOME FOR OTHER PURPOSES

	Actual cash figures *£ million*	*Constant prices** *£ million*	*Real terms growth 1981/2–1985/6*
1. *Endowments, donations, subventions* (subscriptions)			
1981/2	16.235	20.712	
1982/3	19.663	23.513	
1983/4	22.909	26.079	
1984/5	22.136	23.911	
1985/6	28.305	28.305	37%
2. *Short courses*			
1981/2	13.492	17.213	
1982/3	16.201	19.374	
1983/4	21.479	24.451	
1984/5	29.902	32.300	
1985/6	38.879	38.879	126%
3. *Other services rendered* (excluding validation fees, Government Departments, Health Authorities and other United Kingdom universities)			
1981/2	13.676	17.447	
1982/3	18.286	21.867	
1983/4	23.891	27.197	
1984/5	28.006	30.252	
1985/6	31.322	31.322	80%

[Source of data: University Statistics 1985–86 (and earlier years), Volume 3: Finance, Universities' Statistical Record, published September 1987; and UGC Form 3 Out-turn 1985/86 and earlier years]

Letter from the Committee of Vice-Chancellors and Principals

PRIORITIES IN MEDICAL RESEARCH

I promised to write to you stating clearly what we see as the financial needs of the universities with medical schools to correct the effects of the staff and funding reductions since 1981 in their clinical activity and to re-equip clinical departments to the standards necessary for research.

The supplementary memorandum submitted on 12 November to the House of Lords Select Committee estimated that it would cost £14 million to replace the wholly university clinical academic staff lost since 1981. The provision by Government of a sum of £3.25 million to meet the additional costs of the 1987 clinical academic pay settlement will provide a little help to medical schools but there remains a shortfall of £13.5 million from insufficient provision for clinical pay settlements in earlier years. It is our conclusion therefore that medical schools in Great Britain need an additional £13 million to £14 million a year to bring clinical staffing up to a level to enable them to meet all their commitments to teaching, research and patient care. This does not take account of associated indirect costs, many of which are fixed costs, but which probably amount overall to at least 100 per cent of salary costs.

On the equipment side we have estimated that medical schools each need an injection of £2 million to £3 million over a three year period from the UGC to bring their facilities up to a standard necessary to enable them to accept grants for specific research projects from the Research Councils, principally the MRC, and the medical charities. This amounts to a total of £75 million over three years.

A M A Powell
Senior Administrative Officer

25 November 1987

Examination of witnesses

Mr Maurice Shock, Rector of Lincoln College, Oxford; Sir Edward Parkes, Vice-Chancellor of Leeds University; Professor George McNicol, Principal of Aberdeen University, and Dr B B MacGillivray, Dean of Royal Free Hospital Medical School, called in and examined.

Chairman

1041. Good afternoon, gentlemen. May I start the session by thanking you very much for joining us this afternoon, we are looking forward to hearing your evidence as you play such an important part in the field of medical research. Thank you very much for your paper which you sent us and also for the glossy booklet, which is very interesting! I think it would be helpful to us if you could give us some idea of how the present Committee stands vis-a-vis what is likely to be the position in the future from the University Grants Committee. Have you any views on that?

(Mr Shock) We come having made the original submission and we are very glad to come—given that the election got in the way—towards the end of your deliberations rather than at the beginning, and we anticipate that you will have questions which you want to ask us. Our general stance in relation to medical research is rather like that of Atlas grown weary, and it is perhaps worthwhile just saying a word or two about that, because it will put the UGC and perhaps later the UFC into some kind of context. Our starting point would be that the NHS is probably the largest and most expensive organisation in Western Europe. As an organisation it has paid remarkably little attention, ever since its inception, either to the research or the training which underlies its future effectiveness. It has always been assumed the universities took care of that, and for a long time they did, with the stalwart support of the MRC and of course the medical charities, but the fact was as far as the Government was concerned, training and particularly research were really nobody's Whitehall baby. The DES had some kind of responsibility for the universities, the DHSS had a very direct responsibility for the NHS, but the degree of liaison, co-operation or indeed interest which either showed was for a very long time virtually negligible. That is a point which of course we have been arguing for a very long time, and we are delighted that there are signs in the wake of the Croham Report that there will be considerable improvement in the future. I begin with that point because much of what we are going to talk about centres around a dual funding system. The history of medical research since 1981 is tied up with the large question of the relationship of the university systems to the UGC and the Government more generally. The basic point is really very simple: that universities since 1981 have tried very hard indeed to defend their medical schools, so in terms of expenditure on them they have done much better than the average in universities generally of all departments. But the absolute failure of the universities to persuade the Government that they had to make special financial arrangements for the payment of medical salaries—because those were tied to the settlements of NHS salaries—has meant medical manpower in universities paid for by the UGC has fallen much faster than manpower elsewhere. The reason can be found in the history of the guerrilla warfare, if I can put it like that, of the last three or four years about the policy of the universities of having to meet the very high cost of salary settlements tied to the NHS which were not funded by the Government in any special degree, certainly not as they were funded in the NHS. That is the starting point because when people talk about the dual funding system, what springs to mind is equipment and consumables and buildings, but the heart of the dual funding system is that the universities provide the essential core of people of the highest ability who then run the research systems, and they may have a great train of contract researchers in employment, all kinds of people on short term contracts, some of whom will come through and themselves take their place in the temple of honour, but the core of the dual funding system is the ability of the universities to maintain what by international standards is a relatively small number of people of the highest ability who are able to direct research and lie awake at night worrying about it. There has, of course, been one other side effect, which is I think the last thing I want to say by way of introduction, and this follows from the general conditions of the last six or seven years: as this core number has shrunk, so its responsibilities have grown. The nature of the relationship with the NHS has meant that the service commitments have grown larger, the teaching burden has grown no smaller, almost certainly the administrative responsibilities have grown both inside the universities and in the medical provision generally, and often the services of Government have grown very much greater, while increasingly what ought to have been the main commitment of these people, the primary commitment (that of the direction of research) has become increasingly part of a very much wider spread of responsibilities.

Now, the increase in medical manpower that is clear to you from the statistics does nothing to make up that defect. It is composed of two quite distinct groups. The first is that of a growing number of contract researchers, of which I suppose the most obvious source is the quite considerably larger amounts of money that the Wellcome Trust has been putting into medical research and very very good that has been. The other has been "the devil drives", and all over the country universities have made local arrangements with the NHS to do the best they collectively could in the circumstances in which they found themselves, so that there has been quite a bit of special NHS funding in posts in medical schools, but those posts have almost always been tied to specific and severe service problems in the NHS; they have not made very much contribution to the fundamental question that we are

[Chairman *Contd*]

talking about this afternoon. So that from our point of view, if I could just summarise the position in which we find ourselves, we have tried very hard indeed I think as universities (for those that have medical schools) to defend medical schools, but we have been overborne by the events that I have tried very briefly to describe, so that the nature of the research effort, though in terms of the statistics it looks not unimpressive, is resting on a very much smaller base than was the case 5 or 6 years ago, and if it diminishes very much further, will be a very slender base. It must follow therefore (and this is a point perhaps we shall talk about later) that when one is in such circumstances the attractiveness of what you have to offer by way of a research career in medicine is much diminished, both in relation to careers in other countries, (particularly in North America) and of course also in relation to careers as a consultant in the NHS, where the economic attractions are greater and the generalised workload is almost certainly in at least 90% of the cases very much smaller.

1042. Thank you for those opening remarks which lead to a number of very important questions. Could I pursue with you also to set the stage, as you might say, the fact that the UGC set-up is going to be different in 18 months time or so, and one cannot but look at this problem in the context of UGC as it is today, but on the other hand we are all looking ahead and a year and a half or whatever it is is a very short time. What do you envisage is going to come out of these changes as far as the problems you are looking at today are concerned?

(Mr Shock) Well, our stance has never varied. We have done our best to put our shoulders behind the strong UGC and we shall do our best to put our shoulders behind a strong UFC and we shall be happy with the notion of the medical committee which was suggested by Croham—a recommendation which has been accepted by the Government. Our worries are not about the body itself, but about the nature of the relationship of the Government to the body given that we argue for independence, autonomy and strength. We see no signs in the history of the last few years that our hopes are likely to be fulfilled.

1043. Well, may I just come back to your emphasis in your opening remarks on this problem of retaining the high quality personnel which are necessary and of having a competitive salary and career package to offer. What is stopping you having such a package?

(Mr Shock) The answer to that is simply money. The arrangements in relation to salaries are tied through an instrument called CASSC, of which Sir Edward Parkes is Chairman, to settlements in the NHS. That for us is an excellent arrangement, though in some ways it does leave our people at a disadvantage. The problem is that for the last three or four years we have never been funded at NHS levels to meet those settlements.

(Sir Edward Parkes) If I could take the story a little further, when CASSC (that is the Clinical Academic Staff Salaries' Committee) was set up, it was set up not as a negotiating machinery, but as a translating machinery. The salaries of university clinical staff were agreed (and I think the agreement, if I remember rightly, was by Parliament rather than the Government) to be the same as those in the Health Service and the sole point of having CASSC is translating what that means in one or two slightly awkward situations.

1044. So you are detached from other situations in relation to the National Health Service?

(Sir Edward Parkes) Yes, and for many years the system has worked perfectly well. Where it has broken down and created problems for us is that when the CASSC machinery and the agreement was set up, it was never envisaged that Government would agree to a pay settlement which it would then refuse to fund. That kind of thing did not exist in those days. We take no part in determining salaries of doctors and dentists in the Health Service. It is done by the Doctors' and Dentists' Review Body and Government accepts that advice, or modifies it as it wishes, but whatever result is achieved, we in the universities are required to pay our clinical staff on essentially identical scales, but we have not for a number of years now been provided by Government with the funding to do that, and therefore the only way we have been able to remain in some sort of balance on the medical side has been partly transferring money from non-medical areas, where the salaries were under our control, and where we were achieving settlements much lower than the Government itself was with its own employees, or cutting the number of medical staff. Now both of those things have been going on. There has been some movement of money from the non-medical side of the university and this obviously creates tension and problems within an institution, but also we have had to cut medical staff to reduce the total pay bill. This was mitigated to a very considerable extent in the early '80s, because as Mr Shock has already said, the Health Service found itself able to fund a number of posts which we would otherwise have left vacant, and this is where various chairs and other things were funded perhaps 80%—perhaps 100%—by the Health Service. But with the current similar pressures on university budgets we are not getting the same response, because the Health Service itself is under such pressure it can no longer help us out of our difficulties.

1045. Did we not hear from somebody that there were differentials in other fringe benefits between the Health Service and the academic staff?

(Sir Edward Parkes) That is certainly so. It is, I suppose, in the historic sense related to the fact that youngish people in the Health Service tended to change jobs comparatively frequently and therefore arrangements were made for paying quite substantial sums to enable them to move house, legal fees, whereas non-medical university staff on the whole did not move so frequently and there was no

[Chairman *Contd*]

tradition of an employer building in a substantial benefit for movement within the system, in fact they could get very little. The difficulty we now find ourselves in, of course, is that being now in a decade of very tight funding, it very difficult for us to provide the relatively lavish benefits which the NHS does to its employees, to our clinical employees whilst doing nothing for the remainder.

1046. The remainder of the academic staff?

(Sir Edward Parkes) Yes, the non-clinical staff.

(Prof McNicol) Could I add to what Mr Shock said about the problems which stem from constrained funding in terms of recruiting, training and motivating the best clinical academic staff? This is supplementary to what Sir Edward said. Many people are motivated by take home pay; where your treasure is will your heart be also—as a Scots Presbyterian I am fond of quoting Holy Writ—but many people in the past have been motivated to make sacrifices in terms of take home pay to do something they want to do, and one of our problems now is that to enable them to do what they wanted to do in clinical science is much more difficult to provide. The components of resources which we are unable to give them include the most precious, which is an adequate amount of time, because with reductions in staff-student ratios, with increasing pressures to provide specialist clinical services, they find it very difficult to devote the amount of their time they would wish to clinical science and the advancement of knowledge about disease and the way to treat it and prevent it. Secondly, the constraints on the universities have made it very difficult for us to provide the appropriate levels of technical support.

1047. Technical support in the form of supporting staff or equipment?

(Prof McNicol) Technical support in clinical science, post doctoral research fellows, PhD fellows and all that. Thirdly, and equally important, all the universities are facing not only in medicine but everywhere an acute problem in re-equipping to meet the sophisticated needs of the 80s and 90s. Many universities and medical schools had a big influx of resources in the post-Robbins expansion—highly expensive, sophisticated equipment which is now obsolete, obsolescent or about to break down—and we need to replace that equipment not only with like for like but with the more sophisticated and much more expensive contemporary equipment than what was appropriate in 1975. So we face an acute problem in providing our staff with that which they are reasonably entitled to look for in terms of time, support facilities and instrumentation to enable them to keep up with the international competition. I believe if we could really meet these requirements, that we would be able to a considerable extent to compensate for any real reductions in lifetime take home pay, not that I under-estimate the importance of being able to look after one's wife and family.

1048. I appreciate that.

(Prof McNicol) One has to look at the difficulty of recruitment against the background not only of direct reward but ability to compensate for that by professional enrichment through provision of our resources.

Baroness Lockwood

1049. May I introduce another aspect which has seemed very worrying from among the witnesses we have had, and that is that it may not in all cases be just a question of money but also a question of policy. The policy of the Joint Planning Advisory Committee in reducing and spreading the number of senior registrars and honorary registrars seems to cut across, according to some of the evidence, the policy of the UGC and universities in their selectivity. Indeed, in the evidence that we have had from the Dean of Medicine in Leeds, he indicates that there could be a situation where even if you could get funding from other sources for an honorary registrar, you may not be able to have such a post, even in an area where there was some excellence recognised not only nationally but internationally.

(Mr Shock) Dr MacGillivray will want to speak to that, but it comes back to the point at which I began, which is that the history of the National Health Service is that the Department concerned just took for granted the fact that research and training would take place and only in a very light way thought of it as any part of its own responsibility. When you have a legacy of that kind, which is now 40 years old, turning the mind off the NHS from a service-orientated organisation to one which will actually pay a lot of attention to its research and training base is going to take a long time and we are very glad that there are signs that the change is taking place. There is a very long history of it just being assumed that the universities would take care of it. What we are saying to you is that that system has gone a long way to breaking down in the 1980s, for the reasons that we have sketched. The problem you have put before us now is really still part of that service-orientated tradition; it is rooted in that.

(Dr MacGillivray) Could I refer first of all just to a point we have talked about, the salary position of academics and how difficult it is. I think it needs to be emphasised, and I would wish so to do, that the practice of academic medicine is under stress whether the salary is right or irrespective of that. I am indebted to John Butterfield for a quotation which is relevant, which is "The practice of medicine is destructive of continuous thought." That seems a slight oddity, but in fact it really is. When one is dealing with a research entity and research activity you do need continuous thought. The interruption of a patient with his problems in fact is destructive of just that. What is actually happening is because all the good parts on the NHS side—the academics and academic units (and you have to recognise academic units run in parallel with their NHS colleagues)—have to do the teaching as well as providing the service for the patient, as well as its research and looking after the

[Baroness Lockwood *Contd*]

individuals whom it is responsible for training, as well as looking after the training of all the individuals in the institution and as well as taking on the administrative and service needs of outside committees which have been referred to it, in reality the academic finds himself now in a position where there is relatively little free thought time, and that actually is a major complaint certainly from all the academics I know. They do not have time to sit back and think and contemplate and work out what they should be doing. They work in a manner of speaking on their hind-brains, by reflex, and that is a very unsatisfactory position. To go back to the question specifically about junior staff, I have been involved in discussions with the Joint Policy Advisory Committee and all I can say about it is that it was overwhelmed (and I really mean that) by the demands of the service side, and it is the service side which has promoted the distributions which have been referred to as being somewhat unsatisfactory. One can understand how it comes about, where you have a restriction in the number of people available for training, the service requirement obviously has a leading edge because they are the main funders of the people concerned. That is where it has gone wrong, really the service side has had an overwhelming representation on that Committee and an overwhelming influence which we have been unable to get past. Can I refer delicately to another issue which relates to this? That is in days gone by, and I would say certainly not so presently, there has been a conflict between consultant NHS staff and academic staff. There is always a little friction; there is much less now than there ever was, but in the older days there certainly was a lot of friction particularly in the London area, where academic medicine was late to develop, not early. In the provincial medical schools it started with an academic initiative, in London the schools started with a non-academic initiative and academic medicine was grafted on existing systems. That grafting on has never been an entirely comfortable procedure. There is still some friction between people who regard themselves as clinicians and ought not to sully their hands, as it were, with research, and academics who are primarily interested in research and who the clinicians would downgrade and say they are not very good clinicians—quite wrongly of course, but I am merely indicating that that sort of tension can exist and I think what one has seen on the Joint Policy Advisory Committee is a residue of that tension where the Service side feel that the academics should accept the same sort of cuts in staffing that they themselves are subject to.

(Prof McNicol) Could I, my Lord Chairman, say a little in expansion or complementary to what Dr MacGillivray has said in response to Baroness Lockwood? I think the universities do understand a major problem which is faced in the National Health Service which is the need to have sensible planning so that gifted young people (and all young doctors now are pretty gifted in terms of their 'A' levels) have a reasonable expectation of sensible career progression, and are not waiting until they are nearly 40 to achieve independence in clinical practice and reasonable rewards. The National Health Service is understandably and perhaps properly bearing in mind the calibre of the young it is taking into the consultant service, looking for a career development pattern which is something like a ladder or an escalator. In the universities, in the nature of things, our career pattern is pyramidal: we take on many more young people than will progress up through our structure—research assistants, honorary registrars, lecturers, senior lecturers, readers, professors—and that is a very sharply tapering pyramid. Now, those who do not stay with us move to the NHS, so there is a very difficult problem in marrying the National Health Service career structure which is, let us call it a ladder, and our career structure which is a pyramid. One does not immediately see easy mechanisms, and it is through that difficulty of marrying ladder and pyramid that perhaps some of the problems to which Baroness Lockwood refers have arisen. We are trying to achieve a sensible compromise.

Chairman

1050. How would you see that problem being solved? It is rather inherent in the structure of the two sides, is it not?

(Prof McNicol) Well, I believe that basically the solution has to be found on the National Health Service side, which is infinitely larger. They have much more capacity for flexibility; there is much more spare capacity at the margin on their side than there is on ours, and I think there is the danger that the monolithic and very powerful and managerially orientated and tightly organised structures emerging on the NHS side will crush out our much more flexible and in the proper sense opportunistic and free growing and, I hope, free flowering range of activities, so I think there has to be a greater perception on the National Health Service side of our problem, and a greater willingness to be flexible in meeting it.

Lord Perry of Walton

1051. Would you not think the career structure of the NHS was more like an hour glass than a ladder?

(Prof McNicol) I would need time to reflect on that! Let me say that I think that the past career structure in the NHS has been an outrage, and that it is proper that there should be a strong drive to sort it out and I am not unsympathetic to that drive, but I do hope that it can be sorted out in a way which does not crush us in the process, and I think they are big enough not to need to crush us.

Chairman

1052. Is this easier to do in Scotland than it is in England?

(Prof McNicol) I think there is an illusion in the sunny South that everything is for the best and God's will north of the border. It is like that which happens in America yesterday happens in Britain

[Chairman *Contd*]

today. That which happens in England today happens in Scotland tomorrow.

1053. I thought it was the other way round!

(Prof McNicol) We are a little behind England, but I think the problems are there and will manifest themselves not quite as acutely, because the NHS is per capita more generously funded north of the border than south, but they will manifest themselves in the same sort of way in Scotland.

1054. It is also organised on smaller scale.

(Prof McNicol) Yes, but the problems are there, and I am sure you do not want me to go into tedious detail, but they are there, and they are of the same nature as those which obtain south of the border.

Lord Kearton

1055. We have been on a very high moral tone so far, but if I can come down to the nitty gritty, it all comes down to cash. Have the Committee arrived at any annual figure they would like to see allocated to the medical clinician staff on the universities? Are we talking about £10, £20, £30 million a year? When it comes down to capital re-equipment, which has to be over a four or five year period, or so, are we talking about £10, £20, £30 or £40 million? What is the sum of money involved?

(Mr Shock) I think if you would like to have a paper from us which would attempt some specific figures we will provide it. The starting point is the shortfall in the funding of the medical schools which has been a tax on the remainder of the university system.

1056. I accept all that.

(Mr Shock) And we can provide a figure for that and we can also certainly I think have a stab at an equipment figure, and we will let you have that, if you would like it.

1057. Thank you, but I was thinking if one reads your figures that Baroness Trumpington, on the face of it, is perfectly justified in saying "By Jove, they have done very well", the actual number of clinical academic staff has gone up rather than down in my sense. It has gone down, yes, between 1981 and 1986 by about 350, but it has gone up about 800 in areas not funded by the UGC and overall by about 13.7%. I accept it can be improved, but try and accept the Government's point of view (and the idea of this Committee is to influence the Government). They are bound to say "What is the bill?". If we do exactly as you like, and everybody is happy, what sort of money are we talking about?

(Mr Shock) Let us go back to the dual support system. You must remember that the great majority, the overwhelming majority of those additional numbers funded by the medical charities come without any overhead of any kind.

1058. I agree with that.

(Mr Shock) There are direct costs only, so that the universities have had to struggle to maintain the effort along this line. They were not in a position, as you know, or they could never have found themselves in a position of saying "No, we cannot accept a grant" to the Wellcome Trust. However, every time you accept a Wellcome Trust grant, as Wellcome Trust income grows, so you make a charge on the other side of the dual support system.

1059. That is brought out in your paper on overheads, but assuming you are short, I do think we ought to quantify what we are talking about in the whole system.

(Mr Shock) We will do that, with pleasure.

Chairman

1060. Now, we have touched on overheads: perhaps you would like to develop that further. If you are doing work for pharmaceutical companies and so on, can't you charge a proper overhead?

(Mr Shock) For pharmaceutical companies an overhead would be charged. That would invariably be the case, but the major impact on medical research, or the two major impacts, have been the decline in UGC funding as I have described and then the growth in the income generated for medical research by medical charities, and particularly by the Wellcome Foundation during the last 4 or 5 years, and the latter carries with it no overhead.

1061. Why not?

(Mr Shock) Because the medical charities look upon themselves as having the same relationship to the universities as the Medical Research Council which also provides, of course, no overhead on the ground that the UGC produces it for the universities, and that has always been the case.

1062. It is just getting a little out-dated?

(Mr Shock) What has happened is that if you go back to what was said at the beginning, it has of course forced the medical charities and particularly the Wellcome Trust to think in more strategic terms than was the case in the past, and the fruits of that will doubtless come forward. I would be very, very surprised if the fruits include any kind of overhead payment.

Lord Perry of Walton

1063. You have been describing a dual funding system and the difficulties which arise when one side looks to the other to provide money. Would you therefore go for a single funding system in preference?

(Mr Shock) I think almost everyone who has looked at this problem has concluded that a properly working dual funding system is the best system, and we stand absolutely by that. The whole of the system in this country relative to the research councils and charitable funding is based on that assumption. We would have to uproot everything and start all over again, and it would mean scrapping a system which until the last four or five years has worked at least as well as any other system

[Lord Perry of Walton *Contd*]

in the world, in our view. We would be very reluctant, I think, to face up to that.

1064. I just wanted it on the record!

(Prof McNicol) I strongly believe that monolithic funding means monolithic control means predictable staff, stereotyped solutions and stereotyped provision of resources. What I think we need is not just dual funding, which is what we have now, it is multiplicity of funding, which means diversity of objectives and all the more chance of unexpected things happening. The good things in research are usually unexpected and unpredictable; if they are predictable we would be doing them now. I think the more sources we can get money from, and be set up to receive money and use money from, the better, but we have to have the confidence that it is money which is plugged in to a secure, central structure. As Mr Shock has said, the secure component of the central structure, the spine of career progression, comes from the activities basically of the University Grants Committee, the Medical Research Council and the major charities, but into that we should be flooding as many other sources of income and support and objectives as we can get.

Chairman] I would have thought that was very desirable but if you do have multiple funding, surely you have to have a common costing basis for research? You cannot say "He must carry that overhead, he cannot carry that overhead, he must carry a partial overhead." All you will get is people looking for: "the cheapest place to go because we do not pay any overheads here."

Lord Hunter of Newington

1065. Could we go back to the basic funding of the university clinical department which is embedded in a hospital? Surely a sophisticated part of the basic funding there should come, and in some places does come, from the Health Department rather than the UGC?

(Mr Shock) Yes.

1066. The question I would add to Lord Perry's question is, do you feel it would be sensible from the point of view of basic funding that this should be extended so it was met out of the Health Department's budget? So much of the consequences of the clinical research in these departments is directly beneficial to the patients which come into the wards of that hospital.

(Mr Shock) The Committee, as a committee, has never discussed this, but I personally take the view that there is a real problem to be considered there. At present it is true, as I have said, that the National Health Service, quite apart from being knock for knock, does make a direct contribution to the funding of medical schools and individual departments, but there is no national policy on the issue. It is all by local arrangement between individual universities and districts and regions and the picture is very variable across the country.

Chairman

1067. Do districts decide the policy or regions?

(Mr Shock) It can be a mixture, simply because the regions have very different structures. What has always made me pause is the point that I have made already. If we did actually find ourselves moving for medical education out of the orbit of the UGC-UFC structure into that of the NHS, we should as I have explained be moving into an orbit where little is known about medical research and training, which is so service-orientated that it might take a generation or more to educate a system in the necessity of finding proper funding. I find myself between the devil and the deep blue sea on that issue. We are stuck in inadequate funding, it may be in theory because one is always told on the education side that the Health Service has a lot more money, and doubtless that is true; on the NHS side there might be the money but there might be a very considerable lack of understanding of the problems the universities face in fulfilling their commitment to under-pinning the Health Service with training and research funding.

Lord Hunter of Newington

1068. Do you feel the Department of Health was wrong in handing back considerable resources, post-Rothschild, to the Medical Research Council, and getting them to do the research, as it were?

(Mr Shock) I think we would be in much greater straits now if they had not handed them back. I think that if they were now to say, "We want that money back for Rothschild purposes", the blow to the system would really be very severe. We are in terms of expenditure on basic research talking really about a tiny fraction of the total Health Service budget.

Baroness Lockwood

1069. I wonder if we can clarify the present position on funding from other sources? Does this mean that at the present time a university may have to turn down an offer of funding from a charitable body because it cannot match the funding from UGC resources, in other words its own resources? We hear that charitable funding does not provide the whole cost of whatever project they are funding. Perhaps you could tell us what is the policy of universities in this respect at the present time? Do they or should they turn down such money? Looking ahead to the future, has the Committee or any of the universities got an approach in the future whereby, for example, the proposals which the interim report of your working party is making on funding by Government and by industry should apply to charities as well?

(Sir Edward Parkes) I cannot quote a case where a full offer has been made and then turned down; there are certainly projects which founder in the early discussions for this reason. We have in fact examples of a different phenomenon which I find almost more worrying, which is when a charity comes along with a very substantial sum of money

[Baroness Lockwood *Contd*]

and where, because a career in academic medicine is so unattractive, we cannot find anyone to fill the posts which this money was to provide, and we have to hand the money back to the charity. This has happened to my own university twice this year.

Lord Hunter of Newington

1070. Could we move a little back and look at what is happening in the rest of the scientific world? While this is going on all kinds of changes are taking place in the world of science: questions of bigger research centres, research hotels—all kinds of things which Lord Flowers and others have talked about eloquently. How does this kind of change, which seems to be necessary not only from a financial point of view but from an academic and research point of view, affect medical schools and their existence?

(Mr Shock) I think every model has two sides, and I have said a number of harsh things about the NHS, but from the point of view of medical schools, the great overwhelming blessing of the NHS was that it provided bodies, the care of the bodies, and the beds they lay in in great profusion! Now, as a consequence of that the universities with medical schools in the country are already a rather small group. We do not have the problem of a proliferation of medical schools. I do not think there is a medical school in England which has not an annual intake of medical students larger than that of the Harvard Medical School, and that is because the universities here do not have to worry about the beds and the baked beans and the nurses and all that, and that has been an enormous benefit to medical education, but it has had the consequence of course that we have medical schools of considerable size which are almost invariably, if not totally, related to scientific back-up on a good scale and of high quality, so that compared with most of the other scientific subjects, where chemistry or physics or whatever are spread over a large number of universities, medicine is already to a very considerable degree highly concentrated, so that medicine does actually have a different starting point from science generally and I think that may turn out in the end out be a decisive contribution that the NHS quite inadvertently actually came to make, but my colleagues may have quite different views.

1071. The linking with the university science departments is an additional strength, is it?

(Mr Shock) Oh, yes, that must be so.

(Sir Edward Parkes) Yes.

Baroness Lockwood

1072. Lord Chairman, I am sorry to be so persistent but I wonder if we can come back, because it seems to me a very fundamental problem: if the policy of Government is that universities should raise funds from outside sources, if we are then in a position where, as I think Sir Edward said, on two occasions his university has had to withdraw from negotiations when they were being offered money, what kind of a situation are we getting into? If on the one hand resources through the UGC are being reduced, and on the other hand our university medical schools cannot accept grants from other sources, then where is the funding for the system to come from? Where are we to get the newly trained scientific medics from? I do think we need a little more clarification on this.

(Sir Edward Parkes) Well, if I can try and take up that point, what we are facing and not only in medicine are two different phenomena, and I will try to describe them separately. One is that the universities encouraged by Government partly because they were doing it anyway are fairly steadily increasing their support of research in many areas from non-Governmental sources. (In fact, they do that rather more successfully than do most universities in the United States—something which is commonly forgotten or misunderstood.) The difficulty that this places the universities in is that providers who are going to put substantial sums including, if we can get them, the proper overheads into research supported universities, will only suport projects where they see a reasonable chance of return and that means that there is an expectation of a return in a relatively short time, and therefore on the whole the money goes into areas which are at least partly understood. The same in effect is true of the research councils, including the Medical Research Council—that some promise and development has to be shown before they are willing to fund a project. This is entirely satisfactory so long as we have, within the UGC block grant, the money to fund what is sometimes called "curiosity research" but which I would express a different way and say that we need venture capital quite as much as industry does—perhaps rather more—because the end result of careful targeting on projects, the decision on priority areas and this, that and the other, is that we link all our research to areas where at least there is some reasonable body of existing knowledge and we become extremely good at solving yesterday's problems because the seminal things that come from having a little time to reflect will simply not be there, and yet they are at the bottom of tomorrow's problems. So that is one thing which worries me—that the mode of funding becomes too organised, too targetted, too precise, and we shall just become very old-fashioned. The other does relate to something which has been mentioned which is simply people's time. To have ideas you have literally got to have time to think, be it in the bath or anywhere else, and one does not need to claim any particular merit for the academic profession in what I am about to say, because I suspect it occurs in almost every other walk of life. If staff/student ratios are worsening so that greater loads are put upon individuals, they have to sort out their personal priorities. In the case of our non-clinical staff that will be students. They are the people they are face-to-face with every day. They have got to get their degrees and be properly taught and the staff will simply say "I will have to put my research in a drawer and take it out at some

[Baroness Lockwood *Contd*]

future time". It is even worse for clinical staff, because their first priority is the patient who is going to live or die, then the student, then at the bottom of the pile is research, so targeting squeezes out seminal ideas and shorter money generally squeezes research out from other activities.

Chairman

1073. I think one of the things which puzzles us is how does one quantify what is the right sort of expenditure in the sort of fields you are mentioning? I think everybody has grasped the principle: you have got to have the basic science and you have got to attract the right sort of people, but the problem is at what level, is it not? At the moment the Government will say "That is all we can afford". On the other hand, others will say "If you spend some more you would save money elsewhere in the NHS; you would have less illness, less expense of one sort or another within the nation and therefore it is a good investment". How does one measure what the figure ought to be? What you are basically saying is there is not enough money.

(Sir Edward Parkes) I am not quite saying that, my Lord Chairman. What I am saying is such money as there is should be sub-divided in such a way that curiosity research can still take place.

Lord Kearton

1074. But surely that is within the control of the university management departments? The Rothschild principle was that you should have a 10% or whatever for sky blue research, or what have you.

(Mr Shock) It never came about, though, and I began really with the point that all these desirable objectives have been crippled by the absolute necessity of paying salaries. Now although the NHS has done very well in terms of total funding compared with the universities, the discrepancy is now really very wide indeed. It too is under the same pressure and that has had a backwash on us. The simplest thing one can do to answer the Chairman's question is just do a sum which we will attempt which simply shows the proportion of National Health Service expenditure from Government under all heads spent on research in 1980 and in 1986, and you will see the diminishing of the proportion in very marked fashion.

Chairman

1075. Would you have comparative figures from other countries?

(Mr Shock) It is one of the things which distresses me, that it ought to be a figure which the DHSS could pull off the shelf, but I do not think that could be done.

Lord Kearton

1076. The Squibb Company has just provided £20 million for Oxford, Upjohn has provided some millions to the University College Hospital London. Could in fact some of the targeted research, which everybody seems to be so dismissive of, be funded by industry, so you could keep more of your own money for this wonderful basic research? After all, we have Glaxo making £800 million, should we not sweetheart them into providing £100 million to target some research?

(Dr MacGillivray) We have actually such an agreement with Sandoz in our own particular institution. Sandoz do provide overheads, and one of the deals with them was to give us 40 per cent of the overheads, but I have to say the overheads are nearer 60, 70 per cent when you work it out. The problem is not so much the targeted research but the tying up of research to the company concerned. The deal which has been made at Oxford, and I do not know all the details, is that it will tie up a very considerable number of research workers with all their knowledge to that company and they are then beholden to it. All that research is subject to the normal problems of commercial research endeavour, which is secrecy and not allowing it to be distributed until it is patented. I think that will delay dissemination of that work, although it will come out eventually. However, the main anxiety certainly for me in running my own institution would be that what all those people do is actually tied to that company and I cannot shift them anywhere else, furthermore it is kept secret from the rest of the world, which is a major disadvantage.

(Prof McNicol) I am all for commercial companies supporting research activities, and I think what is happening in Oxford is splendid, but one has to say that commercial organisations will cease to be willing to plug in money unless the basic academic credibility of the institution to which they are giving it remains at a high standard. It does not remain at a high standard if all the effort has been dedicated to a particular commercially related enterprise. The willingness of industry to put money in is conditional on the institution remaining at the highest international levels in terms of the credibility of the intellectual quality and the impartiality and disinterestedness of the work which is going on. I think these factors, these attributes, stem from the core activities which are funded by the grants committees and the research councils and charities. The best of luck to Oxford with their splendid benefaction, but they will need to be very careful that the benefaction will be renewed when it has run out in due course, or that another benefaction comes along, because in taking money from industry one wishes, as it were, to be a common prostitute rather than a kept woman, and to maintain that role, not being tied exclusively to an individual company. It is very dangerous, the spine or core needs to be there and of high quality and sufficient size.

Chairman

1077. It is rather difficult, on the other hand, if you are drawing on commercial funds, which are shareholders' funds after all, if they cannot retain some degree of proprietary rights.

(Mr Shock) We think that is right and accept that. Those of us on this side of the table and on the

[Chairman *Contd*]

other side have spent many hours discussing this with industrialists, and the basic view of industry in this country, with one or two notable exceptions, is that they already pay tax to the Government for the support of the basic research structure of the country. Companies are willing, of course, to have contracts (and we wish there would be many more, particularly with British pharmaceutical companies, and I want to be very clear about that) where they see there is a direct interest to the company which can be satisfactorily explained to the shareholders. The fact is we can only have that position with a British pharmaceutical company if we maintain in the universities a basic and fundamental research base funded by Government. If we do not retain that, far from having American companies coming here in the way which is described, we shall find British pharmaceutical companies in 25 years time having to go to American univesities for their contract research. That is the nature of the relationship in this country; it is not the same as the relationship in the United States.

1078. Why not in the commercial terms of the contract include that the company pay towards that fundamental scientific base?

(Mr Shock) If it is possible to produce an example of an eminent company, ICI Joint Laboratories have I think been remarkably successful. Other such examples do exist but they are very few in number in terms of company contribution to the cost of basic research compared with what is the case more commonly in the United States.

Lord Kearton

1079. In your representations you are playing the same old tune; you have been playing it for some years now and the Government has not responded. Supposing you were to say to the Government, "Look, the profitability of British pharmaceuticals is £2 billion, they pay £600 million corporation tax per annum, the companies themselves think there should be more fundamental research by British universities, why not hypothecate 10 or 20 per cent to the universities?" At least that would have some sense of logic to it.

(Mr Shock) We have on more than one occasion taken different routes in arguing that the taxation of companies should be changed to produce the same result. We have found that persuading the Treasury to hypothecate a particular bit of taxation was a little beyond our powers.

Lord Kearton] They have resisted; they have stonewalled you on the shotgun approach. I would advise you to make some outrageous proposals and give them the trouble of shooting them down.

Lord Adrian

1080. Do you think it would be effective if the pharmaceutical companies made these representations to the Government?

(Dr MacGillivray) Get them to offer 10 per cent!

(Prof McNicol) To pursue your proposition in a slightly different way: the core should be maintained through overheads on contracts with the pharmaceutical industry. What we need in clinical science is a core of gifted people who can look forward, providing they perform well, to a successful and fulfilling career taking them through to normal retirement age. That should be a reasonable expectation, it cannot be a guarantee. To provide such a reasonable expectation on the basis of overheads from a succession of pharmaceutical contracts would be as chancy as universities offering to provide it from their overseas students' income, which we have been told not to do. We are often told only to bring the gifted, top tier into a career in clinical science, but we can only do that if we are moderately confident of the money coming in, and if we do not have that spine, none of the entrepreneurial activities, of which I am personally in strong support, can take place and so we do not have a spine of gifted people with reasonable and satisfying career expectations.

Chairman

1081. Could I ask what prevents the medical schools from raising their own funds? I was in Toronto last week talking to a friend of mine who is concerned with raising a very large sum of money for the children's hospital in Toronto, which I wrongly assumed was a private hospital because they were raising money for it, and he said that it was a public hospital but they are still raising a large sum of money which was at the disposal of the medical school. What is stopping you from doing that?

(Mr Shock) I think we all do make quite considerable efforts to raise money and it remains the case that it is easier to raise money from private individuals for medical schools than for any other cause, particularly for the endowment of attractive posts, but we come back, and I think those of us who have tried hard to do this will I think be able to say this in unison, to the same point and that is the one about industry. We have a history. There are very few people in this country who can remember what the world was like before they paid for the NHS out of taxation, and they believe that if you are asked to provide large sums for your local hospital, that is a form of double taxation. It can happen, and it does happen, and the recent changes in legislation particularly about legacies has greatly helped, but it does remain a major stumbling block which will continue, certainly, through this generation, I think.

1082. That is a sort of attitude of mind, is it not, in a way? In North America there still is an attitude that part of the money comes from taxation, but a part also comes from personal or corporate contributions.

(Mr Shock) But of course it was also very strong in terms of the funding of hospitals in this country as late as the 1930s.

(Prof McNicol) If I can just say a word to

[Chairman *Contd*]

supplement what Mr Shock has said, my university works hard at raising money from private sources, from our body of graduates round the world and the per capita contribution from my graduates overseas is far greater than the per capita contribution from my graduates in the UK. In fact in *absolute* terms I think it is greater. The climate towards giving for institutional charitable purposes is just so different.

1083. The attitude being "What I am being asked to pay for is in my taxes already"?
(Prof McNicol) That is right.

Lord Kearton

1084. There is an aspect which worries me here. Professor McNicol has placed great stress on having, as it were, continuity of tenure and career structure. I am exaggerating slightly—one can see 40 years ahead in career structure, and I entirely agree it is very much to be desired, but by making it as it were the forefront of your submissions you automatically raise up enormous hackles in the departments concerned with providing the money. It really is a red rag to a bull to talk to various government deparrments about wanting guarantees for the future. I would like to get the future certain by what is done as a by-product rather than as a starting point.
(Prof McNicol) I am no supporter of tenure. I am a supporter of gifted people having a reasonable expectation of career progression and career fulfilment in the same way as I hope the Government supports the idea that fast stream entrants to the Civil Service who continue to perform well can reasonably look forward to promotion and fulfilment! I am not asking for guarantees or for total security, but I am saying that without some sort of spine of reasonable expectation, given good performance and given no apocalyptic changes in the financial climate, the gifted people who are taken in can climb up a climbing frame. It is not going up an escalator—it is climbing up a climbing frame that I have in mind. It is climbing up, if I may say so to Lord Kearton, through a very pyramidical and highly competitive structure. We are not talking about duds carried up on convection currents to the top. We are talking about a small number who climb up through a very competitive structure, and these are the core for whose well-being I think we must have a commitment from the institutions.

1085. With the objectives I am in 100% agreement, but the emphasis you give to it is counterproductive. One has only got to think of what has happened to this country in the last 40 years or 50 years—in other words, to try and get guarantees for the future for two or three decades is not reasonable.
(Mr Shock) I think there is no question of a guarantee, Lord Kearton, but we are dealing both in the NHS and in clinical research with parallel careers in which, 9 times out of 10, you have not even the faintest degree of certainty about your career until you get to about 35.

1086. I agree with that.
(Mr Shock) Now, it is unreasonable I think to suppose that people at the age of 23 or 24 will embark on a ten year long apprenticeship in a highly specialised trade without there being some reasonable expectation that if they prove to be very good at it they can make their living out of it when it is over. Otherwise, if that cannot happen, the gifted people will go elsewhere to places where such expectations are still common.

Lord Rea

1087. On this point, looking at the pyramid and the ladder and the less good opportunities that able medical graduates see in the pyramid (therefore their tendency to choose the ladder), how do you see the possibilities of making pathways between the pyramid and the ladder more possible, so that people do not opt for the ladder when they would like to go up the pyramid, and so that there are good points for going across? For instance, could there be a fast lane for getting back onto the ladder a few points up from where they left it?
(Mr Shock) I think there is, by the nature of the operation, of course, quite a bit of mobility between the pyramid and the ladder, otherwise the pyramid would not work, but you are really asking a question which we I fear cannot answer about why the National Health Service in terms of its consultant structure is about the most immobile organisation in the world.

1088. We should be talking to the Royal Colleges, perhaps, rather than you.
(Mr Shock) Yes. Mobility is virtually impossible inside the Health Service beyond a certain point.

Chairman

1089. Could we develop that as well, because it leads into another question concerning career structure, and particularly the training structure. It has been said to us on a number of occasions that there is not adequate incentive for people to train in the research field, because when they get off the pyramid onto the ladder they get no credit for their time spent on research, as I understand it. Then it is equally difficult to get back because they have not done enough research, and you get a sort of blockage, if I have got it right. What would be your view on this? Where does the remedy lie? Does it lie with the Royal Colleges, or in the academic field, or where?
(Dr MacGillivray) I think that the remedy has to lie with the training schemes for specialist training, and those then fall back on the Royal Colleges and it is very much a matter of attitude.

1090. Why do they not alter it? It has been mentioned on a number of occasions. It seems to be quite an established issue. You would have thought that the Royal Colleges would have dealt with it by now.

[Chairman *Contd*]

(Dr MacGillivray) I cannot answer that, but I can see a reason why there has been a degree of inertia and partly that is recognition of the problem in the first place which has only come to the fore in recent years in a fairly dramatic way. There used to be a lot of freedom and flexibility in training schemes whereby individuals could move between the NHS and the academic fields. As the system has become tighter, it has become more and more difficult so to do, and the tightening up of the system is a recent development, and that I think is why we now recognise or see the stresses which have occurred because of a policy which has been going on for some time. So I think the answer is that it has to be the Royal Colleges. Obviously the universities must put as much pressure as they can on the system to improve that, and to encourage the Royal Colleges to accept that research training is a reasonable training for a consultant post.

Lord Kearton

1091. In Scotland we were told by the Royal Colleges there that it was a positive disadvantage, having done two years' research or one year's research in, trying to move into the NHS.

(Prof McNicol) I am distressed to hear that was their *explicit* position. I have always suspected it was their *private* position!

1092. They deplored the position. They merely said that was the situation as it was.

(Prof McNicol) The remedy, my Lord Chairman, lies to a considerable extent in their hands. The stereotyping career pattern in the NHS has stemmed in large measure from the drives of the Royal Colleges which were, I think, well-intentioned but misguided.

Lord Hunter of Newington

1093. The question could well be whether there should be a career structure in clinical research within the Health Service. What do you say to that?

(Dr MacGillivray) There is an immediate response to that: we have a problem with pyramids and ladders which has been introduced earlier on, and one of the ways in which this can be handled, of course, is flexible movement between the two systems which generally speaking we have tried to encourage—desperately, really so that there should be equivalents, that individuals on the NHS side could walk relatively easily to the academic side and *vice versa*, and I think we would be reluctant to lose that. I think also it is necessary to recognise it is not always easy for an individual to define a career structure in research which is going to be viable. It is not easy to see necessarily in the early stages a person's development, whether they are going to be good in that field and they are going to work well in it.

Chairman

1094. That is why you need flexibility. Maybe they have a go and some are frightfully good and others are not so good but the latter do not want to find they have lost out if they return to council pratice.

(Dr MacGillivray) Absolutely, and in order to do that you have to maintain flexibility across the two systems.

Lord Hunter of Newington

1095. The question was whether, because of the importance of research in the NHS, there should be a career development in clinical research in the National Health Service?

(Dr MacGillivray) It is a question which Lord Hunter raised earlier and it was partly related to the NHS funding either academic departments or research directly; medically directed research. Our anxieties about that relate to a simple pragmatic issue which is that when an individual is subject to a degree of financial pressure, as we are now, and we recognise that is inevitable and will go on for a long time, that individual is going to respond in his local environment to the pressure of work he has to do. There is no question whatsoever that any individual who is responsible in any way for the well-being of other individuals, patients, will give that other than the highest priority. If you are under stress, reduced funding, not enough time and so on, the service element must take priority. When the funding also comes from the service element, we believe that that priority will be resident in that and you will not get the research impetus you are looking for.

Chairman

1096. If I understand Lord Hunter's question correctly, if you had a career structure in reseach, within the Health Service, would it not be possible to say that priority of those particular people is research and not patient care?

(Mr Shock) I am sure you could legislate accordingly.

Chairman] I think this holds in the United States, as far as I can gather. They have hypothecated time for research.

Lord Hunter of Newington

1097. Does it not exist in laboratory departments which are partly Health Service and partly university. People are spending a substantial amount of their time doing clinical research and laboratory research.

(Prof McNicol) Would it be an impertinence to ask Lord Hunter a question? In the sort of set up of clinical science which he has in mind, who would he envisage would determine the priorities and nature and shape of the programme and identify the objectives? Would they be determined in the Elephant & Castle or by an independent body or by reference to the Medical Research Council or what? I would need a lot of persuading that civil servants, whether medically qualified or not, have the attributes to make it appropriate for them to determine the objectives and shape of particularly strategic research. Strategic research is perhaps more what we are talking about, rather than short

[Lord Hunter of Newington *Contd*]

term, quickie answers to immediate practical problems, not that those are not important. No one, that I am aware of, in a central organisation directed Watson & Crick to do their work.

Chairman

1098. This is where you see some of the difficulties?

(Prof McNicol) I imagine Lord Hunter's recipe might lead to the mundane, uninspiring and second-rate, to put it bluntly.

(Mr Shock) If we are going to go down this path, Lord Chairman, I think the current practice does actually provide some guide to us. I think that what we need in such matters is not central control but modest funding and experiment and innovation out there in the country. If there is some encouragement from the centre, and there does not need to be much, to the regions to begin to experiment in different ways in support of the research base which ultimately is of crucial importance to them, then in most parts of the country the local National Health Service managers and the universities are perfectly capable of putting that money to good use. What happens then ought to be properly monitored and assessed, and if we have not done well it ought to be stopped. The system is such we could perfectly well manage in the locality if there was some direction. Already some regions are showing some interest in developments of this kind, but they have not yet had much encouragement in doing so from the centre.

1099. You would not get a lot of encouragement for basic research in the regions.

(Mr Shock) I think there is a very simple and effective argument which can be put at the regional level, which is not only the need to under-pin their own services by appropriate research and training, but that unless the dual support system as we have described it is in good order in their region, their medical schools will not be able to attract the substantial funds from Wellcome and pharmaceutical companies which are essential to the work of the system.

1100. So it is in their interests?

(Mr Shock) So one would go to the region essentially for help with the infrastructure. That is not a matter which needs to be settled centrally by any kind of Elephant & Castle dictat, we can cope if the will and the money are there and it only needs, relative to the National Health Service, minute quantities.

1101. Would you differentiate between research careers for medical staff as distinct from scientific staff, because there is a difference, is there not?

(Mr Shock) I would very much hope that all such development would be very much related to changes in training and the development of a much more flexible system of the kind which Dr MacGillivray talked of.

1102. It seems very essential for scientific staff because the medical staff can always switch to the National Health Service and opt for alternative careers in general practice or what have you, whereas scientific staff are more limited.

(Mr Shock) Our problem in the scientific departments supporting clinical medicine is of course to keep our base at the moment in the face of competition from the pharmaceutical and biotechnological companies overseas.

Lord Kearton

1103. In the American research establishments which some of us were fortunate enough to visit, we found the non-medical side out-numbered the medical side 70-30, is that the case here?

(Mr Shock) If you go about the country you will find that in spite of the very severe financial difficulties of the last five or six years there have been very considerable strides in the insertion of non-clinical researchers into the clinical departments, and the universities have only been limited by the lack of funds from not being able to go further.

Baroness Lockwood

1104. On the question of some research being promoted from regional level work (thinking perhaps in terms of some of the areas which your own paper described as being neglected, areas of medicine which were of value to the community) would you see the regions taking that offer or, if not, how do you see the medical schools and the research councils being able to switch the priorities into some of these neglected areas?

(Mr Shock) I think there are two quite distinct problems and the question I was attempting to answer was about the basic infrastructure which supports first-class, fundamental scientific research. That is to say, calling upon the regions (because I thought that was the question Lord Hunter posed) to think of making up the gaps which almost certainly will never be filled by dual support or further UGC funding. It is a quite separate question, I think, as to what can be broadly called operational research in the Health Service insofar as it is done in the universities and how it should be divided between universities and other bodies, and how it is carried out. As will be evident, we are committed on this side to multiplicity of funding as far as possible, so we would be very happy if the DHSS did some work directly of that kind while the regions also had their operational research programmes, most of which we hope would be in-house in their own local universities.

Chairman

1105. That leads into I think another area which we would like to touch on and that is the basic Health Service research area. There seems to be a very small amount of investment at the moment on Health Service research for what it is a very big business. You would have thought a business of this

[Chairman *Contd*]

size would be spending quite large sums of money examining its own method of doing things, its own standards of efficiency, effectiveness, etc., and yet the amount of effort which is devoted to Health Service research seems to be miniscule, I think is the only way to describe it.

(Mr Shock) Well, you are talking about a depressed industry.

1106. All the more reason for being highly efficient!

(Mr Shock) What is certain, I think, is that it cannot be revived by a crash programme. If, as I think we hope, there is much more operational research particularly directed to the management of the Health Service which really ought to go with a training programme, it is something we ought to set our hands to in our view as a long term programme. It is not susceptible to a five-year plan.

1107. It should be a permanent part of the set-up?

(Mr Shock) The people simply are not available, but it ought to be started now on the assumption that the benefits to flow might be some way off.

1108. Where should it be developed, do you think? In the universities with the regions?

(Mr Shock) We would hope so, though those of us who have been a little bit engaged in this work think that in the short run many of the private consultants' firms in terms of management structures and the rest do have a great deal to offer. I think it is essentially a field in which the universities ought to have to play their part in the competitive market. It is quite unlike basic scientific research in that respect.

1109. Social science is operational research, and it is like social science in that respect.

(Mr Shock) Yes. Get employed by lots of different kind of organisations and there is no reason why it should not be competitive.

1110. But where the work has been done it has been done by bringing in outside consultants rather than a university team which would seem to us to be a better way of doing it.

(Sir Edward Parkes) If I could give you an example, my own university has a centre for health service studies which is largely the management and financing of health services, and it is a centre which costs us nothing, because it gains enough in fee income to run itself, but this comes entirely from the World Health Organisation and from overseas governments. I cannot recall an occasion when it got money from within this country.

Baroness Lockwood

1111. Is this because there is a resistance to bringing in another university?

(Sir Edward Parkes) I do not know the answer to that.

(Prof McNicol) Could I touch on a related area which is health economics which I believe is vastly important for the future. If we take that as an example of the way operational research could flow, health economics is growing—admittedly slowly but it is growing—with the increasing recognition in the National Health Service, and stimulated by the appointment, of managers who are much more conscious of the need to look very closely at the economic impact of clinical practices and with that realisation has come a willingness to put money into health economics on a small but growing scale, and I would think that that is one way of making sure that growth takes place if the Health Service itself insisted on having the necessary information input into the ways it does things. The services needed to provide the informed input will come up, and I think they can come up, in a university setting. Sir Edward has mentioned his department. There are I think three departments of health economics which are in university settings and which are slowly growing.

Chairman

1112. So you would envisage this growing between the health economics department of the university and the local regional management?

(Prof McNicol) Well, as I understand it, in fact the health economics departments are centrally funded. I have one in my university where the health service funding is central, and I think the other two are centrally funded. It is a little difficult to look to regions to provide the type of medium-to-long term commitment for the growth of such departments which can be a proper undertaking for the central Health Service authorities.

1113. But the regions would show the gain, would they not?

(Prof McNicol) Yes. They are beginning to show willing and plug in quickly and so on, but I think the core is likely to come from the Health Service, essentially.

Lord Perry of Walton

1114. Is there any sign in the universities of any interest from the NHS training agency which is the new effort the Health Service has set up? It has not got going very actively, has it?

(Mr Shock) I think that is the answer to the question!

Lord Rea

1115. On this point, could we put on record some written evidence that we got from the South West Thames Regional Health Authority who said that, of four questions that they wanted answers to, two were put out to management consultants and two were put out to universities, and the questions that they asked the management consultants to answer cost something like ten times as much, and they got a far worse service, whereas the responses they got from the universities were much quicker and much more expert—more useful.

(Mr Shock) I am delighted to hear that.

[Lord Rea *Contd*]

Lord Kearton] If you want to get more money for fundamental research, one way of persuading the Government is to quote examples like this, and say "If we had more funding for this, can we keep 10% of the sum we make for National Health Service contributions?" I am not joking. This is the sort of approach which would get a reception from the Government.

Baroness McFarlane of Llandaff

1116. Could we look briefly at other health professions, because you did say in your evidence that there were 13 dental schools and you did not mention the 7 departments of nursing that there are to my knowledge. I wondered if your Committee felt that the problems for other health professions were similar to those in medicine, or are there particular problems there?

(Dr MacGillivray) I am trying to think on my feet a little here, because the university system and the nursing system are not really quite as close as they ought to be. Our own feeling has been very strongly that they ought to be a lot closer than they are, and there ought to be interactions between the two, and indeed some of us would like to see particularly the nursing system included within the university system, but that is perhaps a personal view, and I know it is one which a lot of universities do not find entirely attractive. I would have thought the particular problems we have in relation to funding and in relation to the National Health Service are slightly different from those of the nursing profession, although we have overlaps, and it is for that reason that I am having difficulty in relating the two. I do not think that we are in the same relationship to the NHS as the nursing profession.

1117. Yes, I think I was particularly asking about dental schools that are very much in the university system, but there are also some nursing schools within the university system already.

(Dr MacGillivray) As far as dental schools are concerned they are just like university schools but a bit worse off, I guess, than we are because their role is very peculiar. Dental schools only exist, and the facilities only exist, because there is a dental school. They do not exist in other circumstances, unlike the practice of medicine which exists in all sorts of areas. So dental hospitals and dental schools are unique to the system, because of a teaching function which occurs. I think in general terms they have been more or less neglected. There is an afterthought in most of the documents you see. We add a little bit, "and dentals", just to round it off. I think as a consequence of that we really have not put as much thought into dentistry as we ought to have done, and I think that is something which we are all guilty of. One's feeling certainly is that they need much more support than they have got. They have not had the support that they ought to have, and I think that is for sure. The question about their own research activities I think relates to the fact that their support is poor and because their support is poor and they do not work in a glossy area of research they have not had much time of their own in academic circles at any rate to pursue research, and that was part of the record, so it goes in a circle. Poor support; poor research activity; less support, because they are not doing a great deal of research, and so on. I think that is something which one can comment on and say it is really a very unsatisfactory situation.

(Sir Edward Parkes) It is certainly true that if you are referred to a consultant for a dental problem, you will undoubtedly be treated by a member of the university staff, whereas if you should be referred to a consultant of medicine it may be somebody in the NHS or one of our employees who will see you. The worry about quantity and quality of dental research has been going on for sometime, and some eight years ago when I was chairman of the UGC, we put additional money in to try and improve the quantity and quality of research in dental schools. This was at a time when they were cuts in prospect and quite how much good that did, I do not know. In my own university and one or two others, there is interesting inter-disciplinary research going on between people in dental hospitals and people in departments like ceramics and so on.

Baroness Warnock

1118. This is a completely different question and goes back to the question on how to protect what has been referred to as the basic infrastructure of research: I would like to ask what you think are the merits in protecting that, of having a few, separate, large research institutes and not attempting to have basic medical research in every university but having some specialist organisations?

(Mr Shock) I think Dr MacGillivray will wish to speak to this, but our view would be that the clinical research unit, the patients and the basic science attachment, are all integrated with each other, and that if you have very, very large research units, you do not have the patients.

1119. But if, as may be the case, it is really very difficult to expect industry to fund this basic infrastructure and there is always going to be the likelihood that all the money acquired from outside sources is going to be in some way tied to the more targeted research, would there not be an argument for making a split even though theoretically and *a priori* you want to keep the basic and clinical closely married together? If the money has to come from different sources for the two, perhaps there would be an argument for this?

(Dr MacGillivray) The argument is really the other way around, and the reason is that quite straight forward research of the nature which is being referred to is almost invariably clinical as a fact; people are not interested in targeted, basic research. If you want to get clinically based research, you require a population base on which to work. The population base will come from not a large district or any other size of district, but from the particular clinical interest of the school academic department. An example which is easy to

[Baroness Warnock *Contd*]

understand is, say, liver disease. If one has a targeted research element in relation to liver disease, then there a limited number of places where you could carry out that because the number of liver units are limited. For example, in London there are two, and that is not unnatural because the patient population is such you cannot run ten of these. That applies to a lot of other areas—renal disease and neurology. So the targeted research relates to the population base, and that relates to a unit of particular interest in that disorder which is the subject of the target. The basic science has to be there. You cannot have large units of renal, liver, neurology, et cetera, et cetera, all in one place because the service cannot handle that; it can only handle a few. It is not really possible to create a very large unit which would have all these things in one place, except possibly in London, which is the one place which the population base and the travelling is such you could contemplate something like a Hammersmith or CRC, but I do not think you can contemplate many of those.

Lord Smith

1120. I have a question about the Royal Colleges. I am not at all sure about the ways in which the Colleges might help. Can you enlarge upon this aspect?

(Dr MacGillivray) It was very easy for us to put the blame on the Royal Colleges in relation to the training schemes, and it harks back to the earlier discussion. Fundamentally, what I said earlier on was that the training programme requirements for an individual to move to consultant status (and that has also academic implications because that is half way up the academic ladder—senior lecturer and consultant are equal) come under stress because of manpower changes and financial stress, such that the amount of research which was accepted as contributing to that training had been downgraded. Most Royal Colleges would accept a year of research work as being relevant and we have heard examples where anything longer than that is a disadvantage. The rules which are laid down for an individual to reach an accreditation as a consultant are laid down by the Royal Colleges, and at the end of the day it is in their ballpark to change the rules such that you can accept a situation where an individual could have greater recognition for his research work and still obtain a post in competition with a person who has done no research work. I have to add to that a big problem (and the Colleges are not alone and all of us have difficulties here) if you want to appoint a consultant surgeon and you say to yourself, "We are going to appoint this young man to be a cardiothoracic surgeon" (and I take something which is difficult on purpose) it is no good that individual having done three years of research and two years of surgery competing against another young man who has done five years of surgery. If you are going to have your chest cut open, you know which one you will choose! There is an inherent problem about relating research to medical practice. I have taken as an example surgery which is difficult, where the practical abilities matter a good deal. Nonetheless, I think there could be more flexibility and individuals who do research work in fact commonly also do some clinical work, so it is not a watertight compartment. I modified my response, yes, it is the Royal Colleges, but there are difficulties for them which one has to recognise.

1121. During the last ten years there has been a Conference of Presidents of Royal Colleges in the UK. Have you been in touch with this Conference?

(Dr MacGillivray) I do not think at any time we have brought up this issue as a formal situation between the CVPC and that Conference. Certainly we have had informal discussions about this; the President of the Royal College which was my own college is very sensitive to the issue and is trying to shift the balance a little so research work could be better adjusted. I must say I have criticised him strongly in coming late to the idea, but that is a little unkind. He has a College to run and it is heavily loaded by service needs.

Chairman

1122. There has been no mention during our questions of intercalated degrees. That has been mentioned on a number of occasions in previous questioning. This is a very neglected area now, and it is something which is to be deplored. Would you agree with that? Have you any views?

(Mr Shock) We are strongly in favour because you "catch 'em young" and that is central, but we accept the arguments, though reluctantly, that the MRC has put forward and we very much hope that it will be possible on some scale to find the funding to ensure that they continue.

1123. You mean the arguments put forward that there just is not enough money?

(Mr Shock) Well, it is partly that. It is also partly, I think, that they may not be acting altogether legally, if that is the right word, in relation to the support of undergraduate work, which, though it is an introduction to research, may not be research in the way in which the MRC commonly understands the term.

1124. I do not think I quite follow that.

(Mr Shock) Well, the intercalated degree comes for a year immediately after the end of pre-clinical training, usually, and I suppose it does occasionally result in work of publishable quality—perhaps Lord Adrian would know!—but more often than not it does not do so. It is essentially an introduction of the young pre-clinical doctor to research techniques and as such we think it is very valuable indeed, particularly as it is clear there is a good deal of evidence that it does attract a high proportion of the ablest in the undergraduate population.

1125. So you are in favour?

(Mr Shock) Very much so.

Baroness Lockwood

1126. Should the funding come from the MRC or the DES?

(Mr Shock) I think it would certainly be simpler if it were agreed that some reasonable proportion of medical students were funded by the DES for an additional year in the way in which, say, chemists who do four years at Oxford are. There are many examples in other subjects where extra years are done for one reason or another: those who do foreign languages have a year abroad and still get paid by the DES.

1127. And you put it on the local authority grant, do you?

(Mr Shock) Yes.

Lord Adrian

1128. If I could contribute for a moment, this is of course the common pathway of most medical students, or a high proportion, in Cambridge, who do a three year undergraduate course. They do their normal pre-clinical anatomy and physiology in the first two years, and then a Part 2 which would be a specialised course in pathology, biochemistry or anatomy or phsyiology, or one of the pre-clinical sciences, and that is paid for within the three years of their undergraduate training, and so that is indeed paid for by the DES.

(Mr Shock) The universalisation of the Cambridge model would suit us very well!

Lord Adrian] I think the intercalated BSc in many other universities was a very good equivalent to that.

Lord Perry of Walton

1129. It was paid for by the DES when I was teaching in Edinburgh, always. I did not know it had stopped.

(Dr MacGillivray) I think it is, there, but not in the UK, where it has been supported by the MRC.

1130. You mean Scotland is outside the UK!

(Dr MacGillivray) Could we refer to a paper, if it is not known to the Committee already, which occurred in the British Medical Journal Volume 295, dated 25/7/87, at page 241 and which relates to the future of students who did an intercollated BSc?

Chairman

1131. Thank you. The Vice Chancellors, of course, are under a tremendous pressure from all departments for more money of one sort or another, and try to eke out what is made available to them. How do you evaluate the needs of the medical schools as distinct from the other calls which are being made on your resources? Do they stand quite separately, or are they all jockeying for position, which means you have to exercise the wisdom of Solomon?

(Mr Shock) They stand separately, I think for a number of reasons. The first is just the sheer scale of the expenditure. The second is the varying but invariably symbiotic relationship with the NHS, because you are riding a tandem with another organisation.

1132. But you get your block grants.

(Mr Shock) That is right.

1133. And then it is up to you to decide how they are split between the various areas?

(Mr Shock) But the nature of the relationship with the NHS and the sharing of responsibilities that that entails produces particular problems.

1134. So the NHS have decided really how much you are going to get?

(Mr Shock) Well, the third point I would make of course is that for universities with medical schools it probably is far and away the single most important point of contact with their local communities and universities have to bear that in mind when they make decisions, but of all those three points I think scale is the largest, and it is the one that has given us the greatest difficulty in the last 5 or 6 years. As you may recall from what I said at the beginning, universities with medical schools for these reasons have found themselves doing more to protect expenditure on medical schools—the national figures are quite clear—than they have on other things, but because of the setting of costs by the NHS they found with every year that their money has bought less in medical schools than it has bought elsewhere, and that is the heart of the problem, and why I think we are at the point where the universities will no longer be able to give even the very modest degree of protection they have tried to give to medical schools in the difficulties of the last 5 or 6 years. But we all speak from different points of view.

(Sir Edward Parkes) What is happening in my own university, to give you an example, is this: I think in the cuts of the early '80s the medical school was protected to some extent, and also as we have said earlier, some of its difficulties were assuaged by the NHS funding posts. In the more recent cuts, it has not been possible to provide special protection for our medical school. The only difference in our approach to taking money out of the medical school and taking it out of other parts of the university is that we have tended to do this in much more detail in other parts of the university, while letting the medics themselves decide how they want to distribute the grants, but they have certainly suffered quite badly over the current three years. My medical school has been required to reduce its expenditure by over 14%.

Chairman] Lord Flowers, have you any questions?

Lord Flowers] My Lord, I plead the Fifth Amendment!

1135. Gentleman, you have given us a very interesting afternoon and we have a lot to think

[Chairman *Contd*]

about. I think this is a very important part of our inquiry. Are there any other points you would like to make while you are here?

(Mr Shock) I think we have covered the field. Perhaps if one occurs to us we might put in a supplementary note to this evidence, and if there are any questions that you would like us to answer at a later date, we will do our best to deal with them if they are sent to us but we are very grateful for the opportunity to be here today.

Chairman] Thank you very much indeed.

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HOUSE OF LORDS SESSION 1987–88

MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

Thursday 5 November 1987

THE ROYAL COLLEGE OF SURGEONS

Mr Peter Lord, Sir Gordon Robson, Professor P R F Bell and Sir Geoffrey Slaney

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THURSDAY 5 NOVEMBER 1987

Present:

Flowers, L.
Hunter of Newington, L.
Kearton, L.
Lockwood, B.
McFarlane of Llandaff, B.
Nelson of Stafford, L. (Chairman)
Perry of Walton, L.
Sherfield, L.
Smith, L.
Taylor of Blackburn, L.
Warnock, B.

Memorandum by the Hunterian Institute of the Royal College of Surgeons

The President of the College has asked me to thank you for your letter of 3rd March and, as Master of the Hunterian Institute of the College, to reply to it on his behalf. I enclose a copy of the most recent Annual Report of the Hunterian Institute which will indicate the scope and purpose of its activities. I understand that their Lordships have been making visits to various institutions involved in medical research and if they wished to visit the College and Institute we would be very pleased to welcome them here.

In reply to the Sub-Committee's specific questions:

(a) Some priorities are set by granting agencies such as the Medical Research Council (general), the Wellcome Trust (other than cancer), the British Heart Foundation (heart and related diseases) and the Cancer Research Campaign. Through these and other agencies the spectrum of disease-related research is well covered. Fundamental research priorities arise from the habit of following promising lines of research which may or may not have clinical applications in the short term. The present emphasis of our fundamental research is towards the molecular mechanisms of disease. It is important to recognise that the practical outcome of much fundamental research is unpredictable but that past indications encourage the belief that it is a frequent and invaluable source of developments that benefit patients. For that reason shortage of resources should never be allowed to be an excuse for giving a low priority to well-grounded basic research by well-qualified scientists. Most medical research workers have a view of the place of their research in the eventual aim of conquering disease even if their work is very fundamental and they are alert to the clinical implications of discoveries that arise in the process of their research.

(b) Experience shows that attempts to concentrate resources on particular disease-related problems that are thought to have a special priority at a particular time are rarely productive. There are of course mechanisms that establish priorities in different ways (e.g. the public's assessment of relevant priorities that leads to larger voluntary contributions to charities associated with cancer or heart disease, or the assessment by pharmaceutical firms of profitability in some areas as compared with others). There would be difficulties in attempting to direct research into specific areas by means of central action. Research is carried out by trained research workers and it is very difficult to redirect their activities into different areas within even a moderate spell of years. Even if it were less difficult, a frequent change of directed priorities could easily leave the research community and the technical supporters on whom they rely flat-footed and frustrated. There have been ministerial attempts to change priorities of research in the past, against professional advice, which quite simply, have wasted resources and delayed fundamental work which might have achieved the desired result much faster. Priorities are determined mainly by the likelihood of work being productive at any given time and by accessibility of funding to support it. Currently too many promising lines are not being pursued for lack of funding. While in general the priorities that exist are reasonable there is too little support available for a range of new and potentially excellent research. There is a serious risk of the base of medical research in this country becoming too narrow to compete adequately with that in other developed countries. That is bad for British medicine, bad for British industry, and bad for NHS patients.

(c) For the reasons given above, yes, but restricted resources allow for too little flexibility in the system.

(d) Priorities are to a large extent disease-orientated in the private (charitable) sector and often system-orientated by the Medical Research Council. All the grant-giving bodies study each other's range of support and try to fill the gaps. They get plenty of informed advice in doing this.

(e) Yes.

(f) Much research is necessary as a normal process of confirmation, refinement or denial of scientific work, but most within the academic sphere is properly original. There is easy access to data of previously published research, through medical libraries, which helps to avoid unnecessary duplication. The most secure safeguard lies in the system of expert referees used by the MRC and all the major granting agencies.

(g) Yes, but the lag-time is often many years because of costs of implementation, though this has improved in the last decade through public pressure. It has to be said however that the story of Britain's failure to exploit the discoveries of its own scientists and technologists has been a sorry one, and there is an urgent need for stimulus to be given, and often initial central funding, to encourage British firms to expliot British discoveries.

(h) None, but more should be trained. This is an essential part of the general funding of research.

(i) The Medical Research Council requires a large supplementation of its grant. Although imperfect, the MRC is the best moderator we have of quality, quantity and direction of research. Application is its poorest talent. It should be adjured to support more medical research on a longer term basis. There is no tablet of stone to say that most medical research projects can occupy or be completed within three years. The term should be flexible and the administrative division between project and programme grants should be replaced by consideration of the likely duration of productive work by the applicants for grants.

Finally, as one of the bodies playing a major role in the promotion of dental research, we would emphasise how inadequately it is funded in relation to other disciplines. It is too readily assumed that dental disease is not life-threatening and that it therefore has a low priority in claims on research funding. In fact dental diseases even when they are not life-threatening, as is oral cancer, have a very high incidence in our population, cause considerable suffering, and are a major drain on health resources.

Sir Gordon Robson C.B.E., F.R.C.S., F.F.A.R.C.S.
Master
Hunterian Institute
8 April 1987

Examination of witnesses

Mr Peter Lord, Senior Vice President: Royal College of Surgeons; Sir Gordon Robson, Master, the Hunterian Institute; Professor P R F Bell, President, Surgical Research Society; Sir Geoffrey Slaney, Past President: Royal College of Surgeons, called in and examined.

Chairman

1136. Good afternoon, gentlemen. May I first of all say we very much appreciate your giving up the time to join us this afternoon. We are very happy to have the opportunity of receiving evidence from you in connection with our inquiry and I think you have details of our terms of reference and I am sure what you will have to say to us will be very useful to us in our deliberations. Perhaps you could introduce yourselves to the Committee?

(Mr Lord) Yes, my Lord. I am at the moment senior vice president at the College of Surgeons. I am a general surgeon at Wycombe General Hospital, High Wycombe.

(Sir Gordon Robson) I am master of the Hunterian Institute. My specialty is anaesthetics.

(Professor Bell) I am Professor of Surgery at Leicester University and I am currently President of the Surgical Research Society. My specialty is general surgery with vascular and transplantation surgery as an interest.

(Sir Geoffrey Slaney) I am the immediate past President of the Royal College of Surgeons of England and the most recently retired Professor of Surgery in the UK, with interests very similar to Professor Bell's.

1137. Perhaps in order to ensure our questions are directed in the right way perhaps you might explain to us what the various interests are that are represented. Of course the Royal College of Surgeons is well known to us but for those who are not so well acquainted with the medical field could you explain what the Hunterian Institute is?

(Sir Gordon Robson) Yes. The Institute is really a conglomerate of all the scientific activities of the Royal College of Surgeons. The College is quite different from other colleges in that it runs departments of physiology, pharmacology, anatomy, pathology, opthamology and so forth.

1138. These are active clinical Departments, are they?

(Sir Gordon Robson) No, they are active research departments. These departments are funded by voluntary effort and the staff are affiliated to the University of London, the professors are appointed teachers of the University of London and the other staff are recognised teachers and we follow the usual university rates of pay and what have you, but of course it is funded by the college itself.

1139. Are your people active in an institute of your own, or are you active in the colleges of London University?

[Chairman *Contd*]

(Sir Gordon Robson) No, we are active in the Royal College of Surgeons itself, the bulk of which is in fact research departments.

Lord Hunter of Newington

1140. What are its links with the Imperial Cancer Research Institute?
(Sir Gordon Robson) We have physical links, being next door, and the Imperial Cancer Research Fund supports, for example, the department of histopathology within the College, and we have liaison as well at a scientific level.

1141. So the College really has a scientific base that the other Colleges do not have?
(Sir Gordon Robson) It does indeed, yes.

Chairman

1142. And Professor Bell, you are a President of the Surgical Research Society. Could you explain to us the function of that society?
(Professor Bell) Yes. It is a society which has been in existence now for over 20 years—27 years, I think. It was started off at that time by a number of the professors of surgery in the country who were both practising clinicians and research scientists, and who wanted to have a forum which could be used for young surgeons in training to present papers of scientific work at the society's meetings, and it exists to provide a platform for that kind of delivery. It also more recently provides a platform for people to give their views about what is happening on surgical research in this country, which I think is one of the reasons (we hope) we are here today.

1143. Could I ask Sir Geoffrey about himself: you were President of a joint body for the Royal Colleges, is that right?
(Sir Geoffrey Slaney) Yes. During my tenure of office as President of the Royal College I was chairman of the intercollegiate committee composed of all the Colleges in the UK, for two years.

1144. Well, that gives us the background. Now, is there anything you wish to add to the paper you have already submitted to us, Sir Gordon?
(Sir Gordon Robson) Nothing I want to add, thank you.

1145. I would like to start by picking up a sentence on page 2 of your paper: you say "While in general the priorities that exist are reasonable there is too little support available for a range of new and potentially excellent research. There is a serious risk of the base of medical research in this country becoming too narrow to compete adequately with that in other developed countries." That really seems to me to come to the essence of our inquiry, and I wondered whether you would like to expand a little bit on that statement?
(Sir Gordon Robson) At the present moment, the MRC is grading grant applications Alpha and being unable to fund them, and this really is a major problem in the medical community, particularly the surgical one. That really says it all, does it not? Projects which are judged to be of the highest scientific quality and utility are not being funded.

1146. Well, it says it all, but of course this is the sort of reply one gets to every inquiry one makes in relation to research—"Not enough money"—and the Government will turn round and say "Well, that is all the money we have got" so we have really got to extend the argument a little bit further as to why there should be more money or in what way existing money might be better spent, rather than just saying "The problem is no money".
(Sir Geoffrey Slaney) If I might help the argument, the Committee were aware of the fact, for instance, that certainly fifteen years ago a project with a good beta plus rating by the MRC would have been funded and the figures I had from Sir James Gowans were last year something like 90 alpha applications (that means it was judged to be work of outstanding quality) were not funded because there were not the funds available. The information I had at the end of June was as of this year of 60 alpha applications only ten have been funded. That gives you some measure, I think, of the way the climate has changed.

Baroness Lockwood

1147. Is this because there are more alpha applications or fewer awards?
(Sir Geoffrey Slaney) That would certainly be a factor, my Lady, but not the entire factor by any means. There is certainly more high quality work being churned out.

Lord Flowers

1148. May I play devil's advocate? Nobody regrets the underfunding of quality applications more than I do. Nevertheless, let me play devil's advocate: there is a great deal of overlap in research in any field, people get bright ideas at the same time, more than one person gets the same bright idea and wants to do research on it, there is a certain amount of overlap—all right, too much—and it is wasteful perhaps. What effort is made in the surgical community to try to see that the mix of things that do get through the MRC at any rate is the most appropriate mix, given that everything is not going to be funded anyway? What about collaboration between people of similar interests and that sort of thing?
(Professor Bell) There is a lot of collaboration. One of the reasons why the Surgical Research Society—which is the collaboration of all departments of surgery in this country—exists is to have frequent meetings to allow people to their research ideas and their work to each other so that there will be criticism, mention of overlap and encouragement for people to visit other departments to see what is going on. That happens twice a year at this particular level. There are numerous other bodies—the Pancreatic Society, the Vascular Society and all sorts of special societies—which meet in addition to

[Lord Flowers *Contd*]

this one. There is a constant barrage of papers being given at meetings for people to listen to. We all know exactly what other people are doing. Therefore duplication does not occur unduly, but some duplication is a very good idea. I can give an example of a famous paper which reached Time magazine, which is an example of its eminence, I suppose, in that somebody thought they had found the answer to transplant rejection in mice. They put skin from white mice on to black mice and did some manipulation and said "This works, the grafts have taken". The fact was, when it was repeated, it did not happen at all. They had actually faked their results. That kind of thing has to be looked at. You must have some duplication, it may not work the second time round. So there is little duplication, a good deal of exposure to each other, and we do know what is going on generally speaking in surgical research.

1149. How much deliberate collaboration is there?

(Professor Bell) Quite a lot. I cannot give you a quantity of how much but, for example, in my department concerning transplantation of certain tissues we have regular meetings with other people in the country—two other groups we know about who have the same interests—and we meet once a year at least to talk about our ideas and discuss overlap. So we do have that going on all the time.

1150. Has the recent shortage of money encouraged this or not?

(Professor Bell) I think money being short makes it more difficult actually to move about, for funding to get people to go to meetings, which is something that they have to do to see if overlap is occurring, and to get new ideas. They have got to get there somehow and to get funds to travel is extremely difficult. So they cannot get there. One side-effect of the university cutbacks is that people are not able to go to meetings, listen to research, prevent overlap and duplication, which is what we are trying to avoid happening in the first place.

Chairman

1151. Does that come under university funds or under MRC funds?

(Professor Bell) Excuse my laughter. The MRC, my Lord, does not fund this sort of thing at all. It comes entirely from three sources. One is university funding which, as you know, is non-existent these days. Secondly there is the NHS which gives it to very few people after a great deal of pressure. Then there are other sources: people get money from drug firms and goodness knows what in desperation to get people to meetings.

Lord Hunter of Newington

1152. Would you deliberately after consultation with your colleagues in the other groups put up one of your applications and let the MRC know informally that this had the backing of everybody in the field?

(Professor Bell) It does not work that way, my Lord, unfortunately. The MRC, if I may speak about them for a moment or two, regrettably do not, in my opinion—and I think my opinion is shared by others in surgery, actually support clinical research very effectively, that is, research that, if you like, is looking at what you do to patients and whether certain treatments are better than other treatments. They have become more interested in basic science research. So when you apply for a grant you have to apply on a special form which does not allow for the kind of collaboration you are talking about. It actually demands a great deal of work and proof, if you like, from the person applying that he is capable of doing that work and that is in itself an exercise. There is no question of collaboration. In fact, I am not even sure whether they would welcome it if they saw it. I would reiterate, they do not support clinical research to my mind. They support basic research very well, and that is very important, of course, but the money that is left over is not sufficient to support clinical research. (For example, if I treat you with a certain kind of tablet for your blood pressure as opposed to another one, will it make you better?)

1153. Would you then apply to the regional health authority or some health authority for funds?

(Professor Bell) Yes, there are lots of different grant aiding organisations, as you probably know, charitable organisations like the Imperial Cancer Society, the British Heart Foundation, the Diabetic Society and so on. You can apply to all these bodies if you want some money for basic research, What I am talking about is clinical research. The Health Service does have some money which it provides for this type of thing, usually a relatively small amount. It has ceilings above which it will not go.

1154. So you think the Health Service should have more money for this purpose?

(Professor Bell) I do, yes.

Chairman

1155. Should that be through the regional health authorities?

(Professor Bell) Yes, I think so, my Lord. I think there should be more money available and there should be local peer review to assess the projects appropriately so that there will not be this competition between clinical research and basic science research which goes on at the MRC—and, of course, the funds being limited, the basic science research tends to be supported more than the clinical research. I understand the reasons for that perfectly.

Lord Flowers

1156. Of course, my Lord Chairman, under the arrangements we have in government now the DHSS could give a contract to the MRC for money to be spent solely on clinical research if it so chose, so you would have the advantage of the expertise of

[Lord Flowers *Contd*]

the MRC but the money coming through the DHSS. Has that been tried? Would you trust it if it were tried?

(Professor Bell) If I can say one more thing, then I will keep quiet. I do not think the MRC is necessarily best placed to actually judge the clinical research I am talking about because many of the people on the MRC are very eminent people but are basic scientists.

Chairman

1157. On the question of visits, attending conferences, lectures and the expenses of that, do the Royal Colleges provide opportunities for funding their members to attend or do the regional authorities provide funds for that? I should have thought it was something where it was either in the interests of the hospital to enhance their reputation or in the interests of the profession rather than something that the Government should be funding. Would you like to comment?

(Mr Lord) The regional health authority has money for study leave and this would come under study leave. Going to a conference would be study and if they have plenty of money, or in the days when they had plenty, the fare would be paid and the registration fee and the cost of staying wherever this conference might be. In the contract all junior doctors are entitled to study leave and at one time it was generous. But now it is extremely difficult to get study leave at all.

1158. That was the right way of doing it, you would agree?

(Mr Lord) A very good way. It should not be the only way. You asked about the Colleges. The Colleges have funds which they give out for travel overseas. I would not like to have to answer off the top of my head but I would have thought at least 20 people a year travel round the world on a learning mission or research mission, discussing, following up some interest that they have that is being done in some other part of the world funded through the College, not from the College's own funds but from funds which have been given to the College for travelling fellowships by various people at various times.

(Mr Lord) We have these funds which we maintain.

1159. But those have been squeezed?

(Mr Lord) No. I am pleased to say we have managed to keep those going very well. On the whole they are increasing rather than decreasing, but the money from regional boards has really almost dried up. It is very disappointing indeed.

(Professor Bell) Not only that, it has also dried up in the universities as well, of course, because they have been squeezed enormously hard. I think the College does provide 20 or so, which is very generous, but in the context of hundreds and hundreds of people up and down the country, juniors who need to be trained, it is very insignificant.

1160. Pursuing that, why has it been squeezed, because I would have thought it would be in the interests of the regional authority to maintain the standard and reputation and knowledge of its medical staff through such contacts around the world?

(Mr Lord) I am afraid whatever we ask for today in the Health Service the answer is "We would love to do it but we do not have the money". Why this is, I do not know, but that is the answer you get on practically everything you ask for right across the board.

(Professor Bell) We have budgets now where the money is held at district level——

1161. District level rather than regional level?

(Professor Bell) Yes, and it is actually sloshed about and moved from A to B to pay for the running of the Health Service, so anything that is left lying about is not left lying about for very long.

Lord Taylor of Blackburn

1162. Does this apply to all the regions, or does it depend on the peculiar disposition of the policies of the region?

(Sir Geoffrey Slaney) My Lord Chairman, it is true to say there are variations, but in the main it does not depend on the region. One can say without any equivocation at all that every major teaching hospital in the country is facing swingeing cutbacks because to use the local parlance we have overspent on the budget. In my own hospital we have just been told that 25% of the beds and one operating theatre are going to be closed indefinitely, and one could quote similar figures up and down the country. This is a measure of the desperation that the districts are in and this is why the funds previously provided for travel and research are now virtually non-existent.

Baroness Warnock

1163. And there is not any fund that is earmarked for research that cannot be deployed somewhere else or something? There is no specific research fund that cannot be moved?

(Sir Geoffrey Slaney) As Professor Bell has already said, my Lady, thes funds have virtually dried up. Most academic departments of surgery in the country now are generating their own funds to pursue research. In departments like Peter Bell's and mine, the money we make from providing services of one sort or another (consultancy work or complicated referral work) goes into supporting the travel of not only the people who work in our department but NHS staff who are on attachment in our department, and unless we earn that money they are not going to have that opportunity.

Lord Taylor of Blackburn

1164. May I pursue this? What about free money? Going back a few years, there used to be a lot of endowment monies that were free and so on. Can this not be used for this purpose, or is it

[Lord Taylor of Blackburn *Contd*]

decided, because of priorities, to use it for something else?

(Sir Geoffrey Slaney) The sums that have accrued in the various endowment funds have now been grossly eroded by inflation, that is point one. Point two is the relatively small sums that are now left, because of the escalating costs, something like 80% of the monies available go into paying the salaries of either technicians or research fellows, and only something like 20% is available to fund research.

Chairman

1165. So what you are saying is inadequate priority is being given to research within the NHS set-up?

(Sir Geoffrey Slaney) Yes. It is grossly inadequate at national level, and grossly inadequate at regional level.

1166. And there is no hypothecation there? You get squeezed?

(Professor Bell) I think there are trust funds which are managed by trustees, of course, whose views are entirely the ones that prevail, and whatever their views happen to be that is what happens to the money. Therefore we do not have any control over what happens to it. In Leicester, for example, I know that after much pressure we have recently managed to persuade them to use some of the interest on the money that exists there to fund research, and that amounts to something like £90,000 a year. Now that sounds a lot of money, but it is actually nothing at all compared to what is required for research purposes, so if you ask for travel money which we were talking about from that particular pot, all you get is a smile, and I think you have to recognise, that for research to flourish, people have got to talk to one another. There is nothing better than a scientific meeting to achieve that, and if scientists cannot get there, it is really a pity, and therefore duplication will occur. We will all go down little dark tunnels if we can afford to do so, and we will get nowhere.

Baroness Lockwood

1167. Before we move off the subject of research, and priorities, I wonder if Sir Gordon could elaborate on a point he has made in his paper, because the Committee is concerned to find out how priorities are established, or how they can best be established. You say in your paper "There have been ministerial attempts to change priorities of research in the past, against professional advice, which quite simply have wasted resources and delayed fundamental work which might have achieved the desired result much faster." I wonder if you could elaborate a little on that? Implicitly you are saying it is difficult for priorities to be established at national level, are you?

(Sir Gordon Robson) Yes. I think I explained earlier in the paper that scientists tend to follow their noses along promising lines of research and they gear up their teamwork to do so and if you have resources shifted by some sort of policy decision to another area it does leave them stranded. When I was on the clinical board of the MRC we had a ministerial fiat, as it were, which was to set up an Institute of Ear, Nose and Throat, and we were not able to do this properly because the scientific manpower was simply not available, and any attempts to do so removed excellent scientific research from other areas of the country. That is the sort of thing I mean. To go back to Lord Flowers' point, he produced this question of money being provided specifically for clinical research. This was tried when the Chief Scientist's Research Organisation was set up in the Department of Health when Sir Douglas Black was chairman and it did have a liaison committee with the MRC, but I think you will probably be aware that after some 5 years that folded up. You may have thought it was going to look after the sort of research Professor Bell was talking about, but it was not, of course, it was earmarked money for the Health Service's research which is rather a different thing. That is the provision of services, not research into disease or anything of that sort.

Chairman

1168. I can well imagine that what you might call "political directives" could be pretty unwelcome if there are no additional funds made available. On the other hand, the point was made to us during a recent visit to the US that there is considerable political interest over there in medical research and this is very much welcomed, because with the political directives or interference, or whatever you like to call it, comes a lot of extra money and therefore, in fact, it is very much welcomed in the US.

(Sir Gordon Robson) That is right, but if you look at the scale of funding, it is of an order that we in this country could not even approach. To give you an example, I was in Cincinatti recently and the Department of Family Medicine's budget was greater than that of the whole of the Royal Free Medical School, and this is one department, so we are talking on that sort of basis. It would really take us many years to get up to that level.

Baroness Lockwood

1169. If a gap can be established by the profession, surely that should lead to some consultation between the profession and the DHSS and maybe then if the political will can be stimulated resources could be forthcoming?

(Sir Gordon Robson) Unfortunately, of course, the Department of Health in 1974 devolved all its funds to regions, and regions have since devolved them to districts, and that is quite inimical to central funding. They have in fact funded centrally one or two things like paediatric cardiac surgery, heart transplant units, renal transplant units and what have you, but apart from that funds have all devolved to the regions. As Professor Bell says, you deal with regions when you want some research money.

[Baroness Lockwood *Contd*]

1170. Would you welcome it if funds could be available nationally for specific purposes?

(Sir Gordon Robson) Yes, we had a Chief Scientist's Research Organisation which in fact was set up to run through the Medical Research Council—I think Sir John Butterfield would know that very well—and it did not succeed in its aim properly because the decisions as to what research was carried out were devolved to the Medical Research Council and its Clinical Research Board. In fact, I have great sympathy with surgeons because a very small proportion of medical research funds is spent on surgery—extremely small—and there is no way of getting that increased under the present system.

Lord Perry of Walton

1171. Do you think the priorities that are being chosen for study and the particular skills of the research workers that are available are being misdirected because applications are being sent to those few pockets of money that are available?

(Professor Bell) I think the problem is this: if there were a huge untapped pool of people who were specialists in all the things you are talking about—let us take backache—backache is a terrible subject, we all get it, but the research in backache has been very poor. The problem is there are not any people around interested in backache. The reason for that is the actual hard core of trained people is not there. Now, the only way you will get those people is actually to encourage academic pursuits in that speciality. Now, orthopaedic surgery, for example, has only just reached a stage where it is becoming viable in this country academically speaking. In departments of orthopaedic surgery, teaching of students and training in research methods is just starting to occur. That has only happened because universities are able, or have been able, as part of their programmes in the past to establish this kind of chair which in itself establishes the research base we are talking about. Once that base has been established, you can then start saying "We have here a million pounds for back research", people will then be able to come forward and support research projects, but to put the million pounds in first without people to apply for it does not work. That is the problem—universities cannot expand the base of people and provide the ones who can do the research because they are being squeezed all the time and cannot provide chairs.

Lord Perry of Walton

1172. That is true of backache, but there are areas where money is available, for instance, in cancer research and in AIDS, and things of this sort, where it is perfectly possible for people who have a general training in biochemistry, for instance, to direct their study into one particular sphere. Now I am asking whether you think there is a serious distortion in terms of priorities or a serious distortion in terms of misdirected skills because of that?

(Professor Bell) I think they are inter-related, my Lord. You cannot really say one is separate from the other. There is a big pool of biochemists, for example. Biochemists are produced in large quantities. They are indeed trained in research techniques properly, so when something like AIDS, which obviously has that kind of possible application, appears they can change to it, if they wish. So the two are inter-related.

Lord Flowers

1173. The tradition of the Medical Research Council in this country is to try to tackle problems fundamentally rather than head-on. The MRC would open a research unit in molecular backache, would it not, if you see what I mean?

(Professor Bell) Yes.

1174. They would try to tackle fundamentals and hope that through that clinical practice would result.

(Professor Bell) My point, my Lord.

1175. Does the MRC go out of its way to do that with recognisable tough diseases?

(Professor Bell) It has tried to do so, to give it its due, in the past but the trouble is, I think, as was said about ear, nose and throat, if you go and look for those people they do not actually exist because they have not been trained to be there in the first place. In general surgery, vascular surgery and transplantation have evolved over the last 10, 15, 20 years because people provided the posts. The posts are all-important for people training in these subjects. Until you provide them nobody is there to take advantage of the "molecular" backache research.

Chairman

1176. It has been said to us on a number of occasions that there is a tradition that good research stems from applications, from people who want to do that research and put in a good alpha plus request and then that is funded. The contrary view to that, as we have been told, is that if you decide this is an area which needs research and say "Here is a sum of money" for somebody who wants to do it, you do not get good research, nor do you get the right answers. That has been said to us. That does not quite bear out what you are saying. You are saying, "Here is a problem of backache, you ought to throw money at it, you will get good people to do the job and they will get the solutions".

(Professor Bell) No, I did not, my Lord, I am sorry. What I was saying was that you have to provide the infrastructure to train people who are interested.

1177. You said "provide an incentive". I said, "Do you mean by that money?"

(Professor Bell) No.

1178. You said yes, which I quite understand.

(Professor Bell) I will rephrase it in that case.

[Chairman *Contd*]

What I really mean is that the universities have been squeezed so greatly that the ability actually to provide an infrastructure to train those people is being whittled away continuously. Until you provide the infrastructure and allow the department actually to exist that will train those people—that takes about ten years at least—if you start now in ten years time you might have somebody to apply for this money, then it would help greatly.

Lord Hunter of Newington

1179. Are there not special problems in relation to training surgeons in modern research techniques which perhaps do not exist in other specialities? Perhaps you could tell us about this.

(Sir Geoffrey Slaney) If I may reply to that, my Lord Chairman, I think there are particular problems in surgery. Perhaps another point which I think is germane to what we are discussing at the moment, my Lord Chairman: as you all know, surgeons are hard-working but particularly for surgical academics there are three priorities with which they have to contend. One is the provision of a first-class clinical service. If you do not have that in a department of surgery it does not matter how good your research is, you do not have any credibility as regards training surgeons and you do not have any credibility with NHS colleagues on the hospital staff. You have to run a training programme as a professor and if the clinical service is no good the training programme will not be approved by the college and, even if it is, word gets round that it is not up to much, so you do not attract chaps of the right calibre into it. So for all of us the provision of first-class clinical service is a high priority. After that you have the important considerations of teaching and running an undergraduate and postgraduate training programme. Then you have got your department's commitment to research. Now, I have listed those as orders of priority. I am not for a moment suggesting to this distinguished Committee that that is a ranking order of importance, but it is a fact of life that for most professors of surgery that is the way you have to look at it.

Chairman

1180. A number of witnesses have suggested the Royal Colleges have contributed to the decline and have attracted it themselves by not giving enough credit for research work done.

(Sir Geoffrey Slaney) I would like to follow through on that, if I may, my Lord Chairman, because if I could just develop what I have outlined to the Committee, it follows that, if you are going to run a worthwhile research programme, you need time, you need resources and you need staff. If a large proportion of your commitment is to the daily treatment of patients, as it is for surgical departments, it is at least surely arguable that you might have a staffing ratio that reflects that. In other words, you ought to have one plus—and distinguished colleagues are going to look very severely at me in a moment—the surgeons might have one or two extra training. The fact is, if you look at the staffing of surgical departments up and down the country, they are always infinitely smaller than the departments of medicine. We have less. So that means that there is less time available for those people to participate in research and so, as the head of a department, you have to devise schemes whereby you can counteract that. For people like Professor Bell and myself and others, one scheme that currently was quite popular was to develop a scheme of off-service. That means you take a chap out of the sort of nuts and bolts of surgical training, learning how to do things as a surgeon, and put him into the lab. for a year or two years or whatever it is. That worked quite well but because of the strictures that have been imposed by the universities in the past decade that has now disappeared. I have had a 25% cut in my lecturing staff and so have most other senior academics. Now, if I could come to the College point of view, when the College established its schemes for higher surgical training where the last four years of training are done at senior registrar level, that is, pre-consultant level, the College said it would recognise one year out of that four spent in a research department as counting towards accreditation. Now, I think it is quite imaginative for the College to say they would consent for a young surgeon in training to spend 25% of his time working in research. You could argue that the 25% ought to be 50%, but nevertheless that is quite an important principle.

1181. When was that established?

(Sir Geoffrey Slaney) Way back in the mid-60s. We now have the paradox where in my region we have 12 NHS senior registrars and 4 university lecturers who are honorary senior registrars who have to fulfil the same training requirements for accreditation by the College as their NHS counterparts. Now, we have the paradox that the NHS registrars' year off for research is still protected, whereas for my university lecturers it has been disestablished because I have lost the one out of four lecturers who would be off service, and this has happened in most academic departments up and down the country, so that this question of staffing is a very crucial one, because everybody knows that, to get a research programme going, you have got to have a certain critical mass of people around with the expertise, the facilities and all the rest of the things to get going, and unless you can initiate a programme which becomes recognised as being of sufficient standing it is not going to attract grants from research giving bodies, so it is a Catch 22 situation. You need an adequate nucleus to get started and get the grants and if you do not do that you do not get off the ground.

1182. Does that cutting back of your academic staff come from the university? Do they cut that back or does that come from the UGC? Who decides that?

(Sir Geoffrey Slaney) Well, it starts at the top with the UGC. It then comes down to the individual

[Chairman *Contd*]

universities and Lord Hunter's distinguished successor wrote me a letter to say that, as from January 1st, 1980, or whenever it was, you will have three lecturers in surgery as opposed to four, and that is the end of the matter: no argument.

(Professor Bell) My Lord, may I say something? I think that Birmingham has been very fortunate. I think it is unusual certainly where I come from. There is not a year provided by the NHS for someone to be off service to do research. That is a very imaginative scheme and it is unusual in my experience, that the NHS, in my view, should provide some recognition of the need to do research—which is a good idea from the point of view of all sorts of people. It broadens the mind to say the very least, and makes people aware of developments in the future, and stops people becoming myopic in the long term, so they should encourage that year, and they do not. If that was possible it would make things a lot better. The document "Achieving a balance" which I am sure you have heard of does not mention the word "research" once in its entire text, and that is an example of how much the DHSS thinks about research—zero. They do not even recognise it and should be made to do so, if we believe research is a good thing for people in training, which I hope you think it is. "Achieving a balance" would also have another effect on the whole service. As you know the idea is to try and equalise the number of consultants with the number of senior registrar posts and drive the bulge downwards which is very reasonable. The trouble is that lots of people in that bulge are currently the ones who are being financed in various ways doing the research, so in two strokes it will actually destroy the research structure that we have built up over the years.

(Sir Geoffrey Slaney) Can I comment on what Professor Bell has just said? I was a member of that ministerial working party that concocted the document "Achieving a balance", and it is not entirely true to say that the problems of research were not addressed. The original remit of that was to address the manpower problem, but it was recognised from the outset both by the university representatives of the working party and by the Colleges that there was a particular problem with the number of young surgeons and physicians in training doing research, and a sub-committee was established to look specifically into that, and I do not think Professor Bell has yet had the opportunity to see the definitive document, the plan of implementation, for achieving a balance which was published last week, and which I have seen, in which there is a whole section devoted to the implications and the careful considerations that have to be given towards considering the number of people in research, but this is perhaps widening the remit a little, and you must stop me if I am going on. We do, however, accept that if there are only a certain number of consultant vacancies available each year, both in academia and in NHS, there must be some correlation between the numbers of people in training and the career opportunities ultimately available. It is because that has now got absolutely and grossly out of balance that we do have to give serious consideration to this, but deliberate and very careful attempts are being made to address the problem of how it might be possible to retain the number of people in research that is germane to the career opportunities that are likely ultimately to be available without wrecking every research programme in the country, because the number of juniors is going to be reduced, and it is a very difficult problem but with respect, Peter Bell is not absolutely correct to say it was not given any consideration. It has been given consideration.

1183. How would you feel the research base should be protected? Have you any clear views on that?

(Sir Geoffrey Slaney) I do not think there would be any division of opinion really amongst knowledgeable people to agree. As Peter Bell said, my Lord Chairman, some experience in research is an essential component in the training of a surgeon. As he also said, it widens the perspective. They see things from a slightly different point of view.

1184. And there is no reluctance among young people to accept that?

(Sir Geoffrey Slaney) Oh, no, they are queueing up. If I could just challenge the statement given in one of the questions you addressed to us about the Colleges in some way giving too little credit for research in assessing candidates, I have already stated that for the senior registrars the College said it would consent for them to spend 25% of their training time in a research programme. If you look in the registrar's phase of training, because of this hopeless bottleneck, more and more young people at that level have been doing research partly to fill in time while they are waiting for a senior registrar appointment and partly to strengthen their *curriculum vitae*. It is a fact that we recently surveyed the whole of the applications for senior registrars' posts in my last year in the College and there were 23 such posts. I repeat for the Committee, these are young men waiting to get into the last four years of definitive training to become consultant surgeons, and so they still have four years to do. Of those, as a result of that survey, the average number of applicants per post was 36, their average age was nearly 34 which is the age at which twenty years ago most people were hoping to become consultants. But the point that is germane to our discussion this afternoon is that 31 percent of them have already got an MD, Ph.D or a Mastership in Surgery or a thesis in the final stages of completion. So 31 percent of those young men who were going to go on and become senior registrars still have the opportunity to take one year in four out for further research if they wanted to do it. That is a sizeable slab, my Lord. It is simply not true to say the Colleges have discouraged that. It is true to say, however, that the training programmes have got increasingly rigid and that has made it much more difficult to switch from one column to another. The

[Chairman *Contd*]

reason the training programmes have got so rigid has been the problem of trying to address the career imbalance on the one hand and demands of the speciality training associations on the other who say: Now to qualify as a urologist or be a particular surgeon, or whatever it is, we demand you do this, that and the other.

(Professor Bell) May I say one more thing, please? I think I would agree with Sir Geoffrey, the fact is the College does recognise research but what I said is perfectly correct: if someone becomes a research scientist they have to do more than one year and it has become rigid and difficult to go in and out of the training programme. They also say that for all these people who actually do research they have to do it somewhere and where they do it in the surgical departments like mine and like Sir Geoffrey's what is happening is that these departments are gradually collapsing because of the university funding squeezes on the department, the staffing is going down, as Sir Geoffrey told you, and on top of that the actual recruitment to chairs of surgery is going down. If I could give an example, I did a survey last year. If you advertise a consultant post in this country, an ordinary consultant post, you get about 50 applicants for it, trained to apply for that post. If you advertise an academic post, which has the same basic requirements in terms of service work, you might get 5. You might ask why this should be. The reasons are, first of all, the person coming into academic surgery suffers a big reduction in his salary for a start—that is fine, that is his choice.

Chairman

1185. In academic practice?

(Professor Bell) Because there is no private practice. Of course, that is his choice. To add to that particular insult, to be told you cannot do any research because there is no money but you have to do all the out-patient clinics instead is the last straw. Thirdly, every single year we have a fight about academic salaries with the Government. They are supposed to be equal to NHS salaries, but every single year we have the humiliation of having to lobby Members of Parliament and spend an enormous amount of time to make sure that the salaries are agreed to, because the DHSS and DES cannot talk to each other. All these things mean no one wants to do the job, and there will be no departments for these people to work in and do their MDs in due course.

Chairman] The last point you made has been made by other witnesses.

Lord Flowers

1186. Could I broaden the discussion by putting a question to Sir Geoffrey Slaney in his former capacity as Chairman of the Conference of Presidents of Royal Colleges. I often wonder whether medicine serves its purposes best by being so fragmented with so many Royal Colleges, each furthering its own speciality. We have that situation in science and also in engineering, but in addition to that we have in science the Royal Society which speaks for all of us and not in a narrow speciality but in general support of science, and in engineering nowadays we have the Fellowship of Engineering which more and more is playing the same role to the immense benefit of the theory and practice of engineering. There is no such thing as a Royal Society of Medicine in that sense. I suppose your role as Chairman of the Presidents in some sense tries to do that but I wondered whether Sir Geoffrey or his colleagues would care to comment on the lack of such a body or such a voice at the centre of medicine.

(Sir Geoffrey Slaney) I think it has been very fortunate for British surgery and medicine and other specialities that we do have Royal Colleges and I would be prepared to expand on that in a moment. I think they have done a most impressive job, particularly since the war. I think we do need our Colleges. It is inevitable, I suppose, with the increase in specialisation in all spheres of life that fragmentation is an ever-present threat, but certainly as far as surgeons are concerned the College is very aware of the dangers of fragmentation and it has tried to develop, particularly in recent years, the policy of keeping all the sub-branches of surgery within the body of the kirk, if I may use that phrase. What might be a good question to ask, Lord Flowers, is do we need four Royal Colleges of Surgeons in the United Kingdom and Ireland, but that is a historical development and my answer to that would be that the collaboration and amount of inter-collegiate discussion that is going on between the four Royal Colleges of Surgeons at the moment has never been closer in our history. I think it is highly significant that the four Royal Colleges of Surggery have agreed to adopt an inter-collegiate policy towards the assessment of higher surgical training, so that is really a process of unification.

1187. But you do not want a common voice with medicine?

(Sir Geoffrey Slaney) My distinguished predecessor, Lord Smith, knows more about this than I do, but I do know that immediately after World War II an attempt was made to get the College of Physicians into Lincoln's Inn Fields alongside the College of Surgeons with a view to developing an academy of medicine, but my information is that the physicians rather did not like the thought of having surgeons as bedfellows.

Chairman

1188. The Institute of Medicine in the United States seems to be quite an influential body.

(Sir Geoffrey Slaney) Yes, but there unquestionably is a need for the closest possible liaison and I think again the Conference of Colleges has made an immense contribution, but by its very nature at the moment that cannot be any more than informed discussions among equals. It would be very difficult with the constitution of the Conference actually to formulate and institute policy. You can agree in

[Chairman *Contd*]

principle which way you will go, but not dictate to individual autonomous Colleges.

Lord Taylor of Blackburn

1189. My Lord Chairman, this may be a stupid question and it is going to what we started off with earlier when I did not get a chance to get in. Knowing that the money from the usual sources over the last two or three years—perhaps going back a bit longer than that—has been drying up, have you ever thought of using other avenues, going to other bodies to get monies?

(Sir Geoffrey Slaney) The short answer, my Lord Chairman, is yes, and we have. It is a fact that for most academic departments of surgery something like 80-90 percent of their running budget comes from outside sources, and I think that is true of most departments in the country. To give the Committee some idea of what we are talking about, my former department consisted of three full professors, three senior lecturers who hold consultant contracts with the NHS, four lecturers, one basic research scientist with a Ph.D., eight technicians and six full-time research fellows and several part-time research fellows. My total university grant from the university for maintenance and equipment for that department was £8,000 for the maintenance grant and £16,000 for the equipment grant. That would not even buy one decent bit of laboratory equipment in this day and age. The fact is that unless you have the ability to go out and get funds you have not got a department.

1190. Where do you get it from then?

(Professor Bell) They are obviously very generous in Birmingham. £8,000—goodness!

(Sir Geoffrey Slaney) We are an older department!

(Professor Bell) You get it from the research bodies, you get university money, you have to go to local fund raising organisations like Round Tables and so on, and of course there are also unfortunately drug firms. Now, that is a big problem. If you start getting money from drug firms, a kind of sponsored research if you like, it is a commercial kind of input which is quite popular these days but you cannot do research that way. You really do become in some way beholden to that sponsor, and the last thing you want to be is beholden to a drug company, but we have to do it sometimes. I do not mean "beholden" really, but we do research in return for support.

Lord Perry of Walton

1191. If you were general manager of the Health Service, and you knew that the amount of money in total is unlikely to go up, and you hold the beliefs you do about the shortage of money in research, where would you look to redirect the money that is needed for research within the existing budget?

(Professor Bell) I think there are various answers to that question. One is I do not think there is enough money first of all, and the second thing is I do not think the way the Health Service is organised gives you any flexibility. To tell you you have got a million pounds and the patients coming through the door are not to be stopped anyway is ludicrous. That is not financial management in any case. If I had to be pinned down to the floor and say what I would do then I would try and reduce the number of, paramedical people in the hospitals and the number of administration type organisations which I think have proliferated over the years. I do not have any facts for that—I just have my eyes, which show me these facts as I walk through the door.

(Mr Lord) I have a factor to tell you about. In Wycombe General Hospital, in our district, we had a finance officer with a staff of six. In 1974 the finance department went to area. 35 came back in 1982 and now we have 43.

Lord Flowers

1192. This is known as "better accountability"!

(Mr Lord) That is where the money is going. Everybody says the Health Service has got a lot of money. I do not see it on the clinical side. I find it much more difficult to get anything that I need, much more bureaucracy involved, much more difficult to know who to deal with and who is the person to go to. There has been a great change in the turnover in staff.

Chairman

1193. Within the NHS?

(Mr Lord) Yes. If you need to get in touch with somebody, there is a good line of communication, and if you need to get something you can go and get it, but the next time you go it is a different fellow. You have got to start all over again.

1194. That does not hold with the MRC.

(Mr Lord) No.

(Sir Gordon Robson) Perhaps I might be able to help. Just to revert to former discussion, we are really interested in the support of surgical research and I quote from memory since I have not prepared this but there was an article in *Nature* in August 1985 which quoted the proportion of papers in the world literature in refereed journals from British medical people. Now, the figures I do in fact remember. The surgeons produced 6.9% of the world's literature in referred journals; pathology 15%; general medicine 13%, and I may say anaesthesia was 18% but it does show you that British surgery is very very much undersupported, and I think this is principally in training of staff and indeed as Sir Geoffrey said earlier, the opportunity to do research. Surgeons I would have to say are very hard working people and they do need hands-on experience and practice, and they do not have time to retreat into corners and think about things. They in fact do need something like twice as many staff as would be required to carry the actual surgical load, and I think perhaps I am understating it and perhaps you need more than twice as many staff.

Lord Flowers

1195. We have heard quite a bit about intercalated B.Sc.'s but mostly in the context of medicine as distinct from surgery, and undoubtedly it does attract young people into medical research. Do surgeons make much use of it to attract young medical students?

(Professor Bell) Yes. The trouble is we do make use of it. The problem is, that the MRC, which funded these particular courses for years, has now decided to stop doing so and there is no longer any funding for intercalated years for these students from now onwards. You have got to find the money from elsewhere and that is extremely difficult, so it is an extremely useful experience being exposed to research techniques which has now been withdrawn.

Chairman

1196. You regret that?

(Professor Bell) I regret that greatly. I think it is a terrible disaster. But, they have done it and it is another example of what I am saying about research funding. Unless we find money from other places like the local authorities or whoever, these intercalated years will stop which will be a pity as I think they give an enormously good exposure to scientific research methods at an early age when they have an urge to do it and which they keep later on. I think that the MRC should reinstate their support to the students.

Lord Flowers

1197. What about support staff for surgical research? Are you better off, worse off, than other branches of medicine?

(Professor Bell) I think we are just the same as anybody else. We have got to get money, grants, and get staff on grants. What I have managed to do I think and something which we should have more access to is funds for scientists in departments of surgery which I think is the way forward for basic research. I have been trying to do that for years and years and years. I finally got funding a couple of years ago and it has made an enormous difference.

Chairman

1198. The difficulty being to attract the right person?

(Professor Bell) No. To get the money.

1199. If you have got the money, there is no difficulty in getting the people?

(Professor Bell) You want somebody with tenure. You want several people with tenure, and getting money from the university again, or anybody—sorry, "tenure" is a dirty word. Somebody who has got some recognition or security—not tenure. Security—not a two year grant application or three years. That is what you need, and it works very well in any department now. We have a couple—one from the NHS and one from the university.

1200. What I would like to ask now is for some help from you in relation to our specific terms of reference, namely priorities. One of the questions that of course comes to mind is how do you assess priority and how do you assess cost effectiveness of the work which is done? In the US, for instance, we have heard that there is a very high rate of coronary bypass surgery, and that it is much higher than here. How do you assess the effectiveness of surgery in each specific area in order to enable your work to be directed in the right direction?

(Mr Lord) First of all we know all about American figures in surgery. Whatever operation you look at on a similar population they do half as many again, if not twice as many, as we do, and we believe that they are operating more than they should. We believe that we have got it about right if we have not got a waiting list and if we are actually doing the cases we would like to do, so my inquiries about cardiac bypass are that we think we know which ones ought to be done and mostly they are getting done but there is a waiting list and I know, for example, that patients come from Glasgow to Harefield to have their coronary bypass because Glasgow cannot at the moment cope with the work load, so on the whole we feel that we do not have a problem on this and we certainly do not look at the American figures with any sort of envy.

1201. But how do you assess that just as a matter of interest?

(Mr Lord) Well, this is the research that we have been talking about. It is a very difficult thing to assess.

1202. Well, that is what I wanted to come to, because there does not seem to be a lot of priority given to Health Service research, in other words, effectiveness?

(Mr Lord) There is surgical research, if I may say so. If you are deciding whether a coronary bypass operation is an effective operation and you are deciding whether somebody with two blocked arteries ought to have an operation or whether you only operate on somebody with three, that is surgical research. That is what it is about. That is what we want the money for. That is what the College encourages and everybody wants to get on with, and that is what you have departments of surgery for, and you have actually to review very large numbers of cases, and you get keen young men who, in order to get promotion in their career, know they have got to publish good papers, know they have got to produce something which is respected right across the world, because what they publish is going to be read all over the world, and they need the facilities to do this. I do not think they should be featherbedded or anything like that, but the facilities should be there. They are going to have to work very hard at it, but we are in a unique position really in this country to do this sort of research. We can do it better than the Americans. We have got a different motivation in our Health

[Chairman *Contd*]

Service than the Americans have in their surgical services. We can produce figures which would be respected all over the world.

1203. When you say "we", who is "we"?
(Mr Lord) We, the surgical fraternity.

1204. The fraternity doing it itself?
(Mr Lord) The fraternity of surgery, right across, academics, non-academics, all working together.
(Professor Bell) If I applied for a grant to do that, that is where I would have difficulty, getting the money. That is where the problem would start. I can give another example. Take transplantation of a kidney.

1205. Let us be quite clear. Mr Lord was saying "We are doing it, it is satisfactory". You are saying you are not doing it because of lack of money.
(Professor Bell) No, we are doing it, trying to do it as best we can, but we are being held back for the reasons Mr Lord gave to you.

Baroness Lockwood

1206. But Sir Geoffrey also said you cannot do clinical research because you are having to do the actual clinical work.
(Sir Geoffrey Slaney) With respect, my Lady, I did not say that. I said it is getting increasingly difficult to do it and that is why this Committee should be aware of this particular difficulty in surgery. But Sir Gordon said if you look at the sort of work that is produced in this country and published in this country, both in clinical research and in basic research in surgery, it compares both in quality and quantity per capita very favourably with what is produced in the States. I am prepared to argue that some of it is a lot better than what is produced in the States. But it is all done on bent pins, sealing wax and bits of string. The head of the department has to spend the greater part of his time fighting these administrative battles, either for resources to get patients treated or to accrue funds, and less of his time doing research himself, or teaching students or operating, which is——

Chairman

1207. One of the things which seems to concern the authorities in the States or a number of people anyway, is that the statistics varied enormously from one part of the country to another, from one hospital to another.
(Professor Bell) They do.
(Sir Geoffrey Slaney) Again it is part historical, part what resources are available, in part depending on how supportive or non-supportive the local health authority is prepared to be.

1208. You would not have thought we would have this problem in this country.
(Mr Lord) Your Lordship referred to America where there was one city with 15 percent and another of a very similar sort with 30 percent. The Americans were very put out by these figures. They either show that somebody is doing too few or, very much more likely, that the other chap is doing too many.

1209. That does not arise in this country?
(Mr Lord) Not to the same extent.
(Sir Geoffrey Slaney) I do not think you can make a sweeping judgement like that. It is shades of gray. It is certain the Americans are doing too many coronary artery bypasses and equally certain that we are not doing enough. People are dying from cardiac ischaemia on the waiting list of the hospitals of this country. Every day they are dying on the waiting list from degenerative arterial disease, aneurysms, things Peter Bell and I spend a lot of time coping with.

1210. That is not a problem of priorities of research.
(Professor Bell) My Lord, you said, why are we not doing as many coronary artery bypasses as the Americans. Perhaps one reason is that the service side of the NHS does not actually fund it.

1211. I was not asking that, was I? I was asking to what extent is the Health Service research adequate to determine what is the right sort of number.
(Mr Lord) On that particular question of bypass I made inquiries before coming to the meeting. The research has been done and the cardiologists are reasonably satisfied that they know which patients ought to be sent up for bypass and which should not. The figures will probably change as time goes on; as people get better at doing bypasses so you take a wider spectrum of people to do it to. It is a flexible, not a static, situation. But that sort of research has been done, that knowledge is available. The second question is, are all the people whom you want to have a bypass being bypassed in this country? As Sir Geoffrey says, it is very variable. In some parts of the country they are not.

1212. The third question might be, is the Health Service exploiting the results of the research sufficiently? The answer from what you say would be no, because you have these waiting lists.
(Mr Lord) We know what we ought to do and we cannot always do it.

Lord Kearton

1213. The villain of the piece throughout the afternoon has been the National Health Service. Who in the National Health Service is responsible for these terrible policies of which you are so critical? The Chief Medical Officer, permanent civil servants, the Minister himself?
(Professor Bell) My Lord, I think it is to do with funding restrictions. One does not actually say that there should be a bottomless pit of money, but you are talking about America and Europe and so on. The actual money spent on the health service in this country is well known to be a fraction of what is spent in America and Europe. What you get for

[Lord Kearton *Contd*]

that money is a very good bargain. If you spent as much as America spends on health care—I think they spend about twice as much as we do, and the Europeans as well—I think we spend about the same as Greece, just below Greece or Malta, I forget now. We spend a very small amount and the basic problem is that there is not enough money. Having said that, I think that the district then gets a fund, the region gets a fund and it has to decide what it can afford. It is not a planning exercise done on a regional basis, that is the problem.

1214. I would like to take this up because we were told in America, given all the figures—they spend more than twice per head than we do, about 11 percent of GDP against our 6 percent, and a greater GDP, per head, so it is more than twice——

(Mr Lord) 25 percent of their population do not have medical treatment at all.

1215. But when we looked at the health records of the United States, we went to a central statistical place in Washington where they produced all the figures and they were no more healthy than we are. So there is no correlation between what you spend on health and the general health of the population.

(Professor Bell) I accept that entirely, my Lord. You are asking a different question.

1216. I think it is legitimate for the Government to say "You are asking for more spending. Where is the evidence that it does any good and that more money will really produce a marked, measurable improvement in the general health?"

(Sir Geoffrey Slaney) The term in paragraph 7 of your list of questions, my Lord Chairman, refers to the effectiveness of such surgery, which is really the point Lord Kearton is addressing, and how they set it depends on what you mean by "effectiveness". It might be true to say, if you look at a large cohort of patients, you can say, well, the five-year survival rate has not changed, as it has not changed for large numbers of people with major cancers, it is the same now as it was twenty years ago. But if you look at what has happened to the quality of life of the individual patient, it is immeasurably better. If you look at it using this term "effectiveness" you might say, well, what is the effectiveness of the reconstructive surgery for osteo-arthritis of the hip? That never kills anybody but it makes many people's lives agonisingly miserable, and a simple hip replacement can transform the life of someone of 65 who may live very happily for another ten years after that. In terms of that individual patient that is more than 100 percent cost-effective, although if you look at the cohort of statistics about longevity and so forth you do not even see it, it does not even make the bottom line.

Baroness Warnock

1217. There does seem to be a difference between research in surgery and other kinds of research. I am not talking about research where Britain lags behind, but the surgical research itself. Is it possible that this is an absolute caricature of the people who keep surgeons so short of money, so to speak, that they do not actually want research in this field to be done because, if it is done, more and more people will want the operations? If you do some successful surgical procedures that have never been carried out successfully before, now more people are coming along and saying "Reconstruct my hip" which twenty years ago you could not do, and now you can and so on. Is this one of the basic underlying reasons for the extreme shortage of surgical research?

(Sir Geoffrey Slaney) I would hate to think someone is sitting in a backroom with that sort of philosophy. I do not think there is any evidence of that at all.

1218. I do not want to identify a particular person or a group of persons—I am simply saying this might be a latent motivation which is that the more they have, the more they want and therefore the more things are possible, and the more expense is going to be generated. I am not putting it more specifically than that, but if you have found out how to do something even more complicated in way of—I do not know, transplants or whatever it might be, then more people will want it and the money would go.

(Mr Lord) I think you are right to this extent—for example, hips are putting an enormous workload on orthopaedic surgeons and surgical departments in orthopaedic surgery, and that means if your funding is the same as it was there is less money for research. From that point of view, the cleverer we get the more we lose. We are told constantly that the Health Service has got much the same sort of income as—in fact better than—before, but there has been a very purposeful redistribution of that income. When I went into surgery, general medicine and general surgery were king and everything else was really rather second class citizen and certainly psychiatry and geriatrics and all that kind of thing and general practice was very badly paid, and there were very few of them. Beaconsfield, where I live, had three GPs. They have got 15 I think now. There has been a great re-allocation of funds and the acute sector, general surgery and general medicine, has suffered very much. The attitude of 99% of surgeons is that they will give priority to patient care and research has to take second place, and that is why surgical research is suffering.

Chairman] It is difficult to protect that, however, if in fact as a result of your success there is more demand for surgery?

Lord Flowers

1219. Lady Warnock's question could perhaps be replaced by this: how much surgical research is done to make operations cheaper rather than to invent new and even more expensive ones?

(Professor Bell) Research is not done like that.

[Lord Flowers *Contd*]

1220. Why not?

(Professor Bell) Well, I will tell you why. One of the reasons why they are not cheaper is that the only way to make an operation cheaper would be to have some kind of production line like the Lahey Clinic, for example. You could argue for that kind of thing, where somebody comes and goes into a hotel and pays for their own breakfast and so on. That is the only way you could make it cheaper.

(Mr Lord) Day case surgery has come in too, and Wycombe is one of the pioneers of this. Two fifths of my admissions come in as day cases, and go home the same day. This is a great saving. We would have to have an extra couple of wards to actually have them in and look after them for a few days like we used to, so there are things which are saving money, but the cleverer we get and the longer people live and the more acute things we can do to elderly folk, the more work we pile up.

1221. I think some of us are a bit bemused. In other professions doing things more cheaply is regarded as just as clever and more significant.

(Professor Bell) Yes, I agree. You cannot say that we do not do research to prevent more operations. Look at ulcer surgery. We have been involved intimately with the development of drugs which are now given to people with ulcers and ulcer operations have gone down enormously. A lot of our research is dedicated to making us extinct. Surgical research is not meant to invent bigger operations and to do greater technical things. Actually, it is research into disease processes. It is not operative research. It is research into disease. Take gallstones, for instance. Now, these can be broken up by machines with shock waves and so on. All those things are reducing the number of operations every year, so I do not think we do in fact look for bigger operations. We look for the causes of disease and treat them.

Chairman

1222. And specialisation?

(Professor Bell) Yes.

(Sir Geoffrey Slaney) My Lord Chairman, the straight answer to Lord Flowers is we have made it unquestionably cheaper. If you look at the throughput of the average surgical department of any hospital in this country and compare it with the throughput even 20 years ago, it is greater. The patients spend less time in the hospital and you have to take into account how much the complexity of surgery has developed during that time. Now, my hospital opened in the mid-30s. The theatre accommodation was built to accommodate a workload of something like 5,000 cases a year, and that was in the days when something like a gall bladder or a gastric operation was a major operation. The average theatre time would be something like 50 minutes. We now do 10,000 cases a year where over 50% of the work is complicated reconstructive surgery taking 3, 4 or 5 hours per case. The average duration of stay in the hospital is now something of the order of 9 days as opposed to three weeks. If that is not cost effective, tell me what is.

1223. To what extent can some of this treatment be done outside the hospital altogether?

(Sir Geoffrey Slaney) Something of the order of 30% overall, I think the last figure was, in England and Wales of surgical cases are now done on a day case basis, but I think we are now approaching saturation point on that.

1224. That has been fully exploited, has it?

(Sir Geoffrey Slaney) We have to be very careful that we do not let the pressures for increasing day case surgery put patients at risk. Now, that has happened in the States: because of the litigation question in the States, now, more and more patients are being treated on a day case basis than an in patient basis. I was at Vanderbilt in Nashville a couple of months ago. They have just opened a $70 million facility for day case surgery, and all the routine breastwork is now done on a day case basis unless there has to be a mastectomy performed. Execution of the lump and radical biopsy is done on a day case basis, because if they take the patients in the insurance company will not pay the fee. The insurance companies have made the decision that this type of surgery is going to be done on a day case basis. I would hate it if we ever got to the situation where the department here was so ill-advised as to say "The following operations will now be done on a day case basis".

Lord Flowers

1225. How much has research contributed to that undoubted progress?

(Sir Geoffrey Slaney) Quite a lot. Coming back to this question of effectiveness, I think the Committee has touched on the question of audit. Part of the answer to Lord Flowers' question is that in most hospitals now there is a weekly surgical meeting which is some sort of audit, because cases have to be presented and be discussed, but in many many hospitals in addition to that a strict audit is now run. Every surgical firm has to produce its results for the past month, the complications, the nasty bits that went wrong, why they went wrong and this is all there, and it is freely discussed among the staff. If at the end of the month it becomes evident that Slaney's results are three times worse than Bell's, Slaney is put into a very defensive position and he has to go away and think "Well, is he really going to go on with that type of work, or what is he going to do?", so I think increasingly this question of audit is going to address the question of whether the right operation is being done or whether it is being done too much or not enough, or what.

Chairman

1226. Is that audit conducted by the profession itself?

(Sir Geoffrey Slaney) Yes. It is an internal audit and in many teaching hospitals it is run by the

[Chairman *Contd*]

academic unit. When I say "run" they administer it. They provide the computer back up or the secretarial backup or whatever, but it also touches on an important point to which I referred earlier, which is that you only really get efficient programmes of audit where there are those personal relationships in the hospital between the various factions of the staff where they have absolutely confidence in each other.

1227. So it is within each hospital, not between hospitals?
(Sir Geoffrey Slaney) Yes.

Lord Kearton

1228. It is clearly a self audit?
(Sir Geoffrey Slaney) Yes.

1229. When we were at Sheffield, for instance, we looked at the cost of certain operations in two different major teaching hospitals in that area and found the cost of quite a major operation very markedly different.
(Sir Geoffrey Slaney) That is right, and this is coming increasingly into the debate. Peter Bell referred to collaborative research; he and I are interested in the field of arterial reconstruction in the leg amongst other things. There has been a lot of debate in the States about this. Commonly we use the saphenous vein—I do not want to bore the Committee with details—and there are various substitutes now on the market and there has been a continuing argument about what is the best replacement in given, defined situations, i.e., where you cannot use a vein or where you can use a vein. The Society of Vascular Surgery, of which Peter and I have been presidents in our time, are running a collaborative nationwide control trial to address this particular problem and it is going to come up with the answers that in situation A vein is better than prosthetic, in situation B prosthetic might be an effective substitute for vein, or whatever it is. These again are all forms of quality control. They are addressing the question, are the right operations being done in a given set of circumstances?

Chairman

1230. Is that sort of research supported by MRC grants?
(Professor Bell) One of them is, the one which is based in Charing Cross Hospital.
(Sir Geoffrey Slaney) Many more are run between individual departments on a collaborative basis. They agree to pool their resources to do it, with no outside support from the university or from the Heart Foundation or money like that.

Lord Flowers

1231. Could I ask at least my final question? If more money were available for that sort thing—call it research, call it auditing, I do not care—would it make much of a difference?
(Professor Bell) I think it would. For example, in Scarborough there is a consultant who has just retired who employed a lady who I think was a nurse or something of that kind—a historian. He got money for her in the hospital. She was occupied fulltime in just this kind of research, putting patients in different trials, seeing whether this antibiotic was better than that and so on. She did an enormous amount of work because he had her there financed to look at patients, get the data, analyse it while he went and did operations. He could not do both things at once. That kind of person I think should be available to every hospital for that kind of research, but if you try to apply for funds there will be a hollow laugh, I am afraid.

Lord Kearton

1232. We trailed the suggestion and were told it was no use unless the person concerned was very closely supervised.
(Professor Bell) Oh, yes, we are quite keen to do it. We supervise people all the time at no extra cost. We are fools in that respect, but never mind, we are keen to do it but we have not got the funding for such a person.
(Sir Geoffrey Slaney) That particular surgeon had previously been senior lecturer in an academic department of surgery and yet he transformed the whole ambience of what was until then a small district general hospital, and some of the papers produced from that unit are still quoted as classics in the surgical literature of how to mount a control trial and analyse the results. The truth of the matter is the surgeons generally have been very active and effective in managing control trials in this country. You know, you have to look at work that has been done on gastric surgery to which Peter referred, carcinoma of the breast, colon and rectal cancer. In all major fields trials have been set up and addressed to answer these different and difficult questions of what is the most appropriate treatment for a patient in this particular circumstance.

Chairman

1233. This I find extremely interesting because one of the things we addressed ourselves to is this question of the adequacy of operational research within the Health Service which is an enormous business, as you might say. It appears in many fields that there is inadequate operational research to study its own effectiveness but from what you are telling us on the surgical side there is quite a lot being done as between the practitioners themselves?
(Sir Geoffrey Slaney) I would go further than that and be very provocative. I would say it is only the work that is being done between groups and speciality related where the statistics really hold up. If you talk to the average surgeon in this country about figures based on the hospital analysis as it is run at region, there will be a hollow laugh like the one you just heard because we all know it is terribly fallacious. When the College first started its discussions on the problems of manpower in the careers structure with the Department—detailed discussions really started about ten years ago—the statistics that the College had got were wildly

[Chairman *Contd*]

different from those held in the Department, and it took us five years to convince the Department that our figures were right and theirs were wrong, but the——

1234. You would not be against operational research, but it has to be done in the right way?

(Sir Geoffrey Slaney) All I am saying is that it has to be properly done. If you look at the reason why so much of the hospital activity in analysis in surgical terms is fallacious, the reason is that it is not sufficiently detailed in coding and regrettably some of the coding is wrong. Now, the surgeons have to accept part of the responsiblity for that because often they are getting it done by the surgical registrar on the firm, and he will put down one operation as being done and conveniently miss out (because he does not want to upset the boss) that there were three complications and the patient had to go back to the theatre. So when the statistics come out of the region later that year they say in their example, only Y operations were done, and if you go back to the theatre and pull out the records and say "How do you account for the fact that you are fifty short?"—wheels within wheels, my Lord Chairman.

(Mr Lord) At the next Annual General Meeting of our College the subject for the meeting is audit. This is what we are all going to talk about and try to get some sort of consensus as to the sort of audit that everyone should be doing.

1235. Audit and operational research are rather the same thing?

(Mr Lord) That is right. The question is, how far can we take it? There is one serious problem which has not been mentioned which I think we as a profession hae perhaps not pushed hard enough. That is when it comes to audit, when it comes to getting the figures, when it comes to correlating them, all you need is someone whose job it is to do that and who is skilled and paid an appropriate fee.

1236. You would like it to be somebody from the profession?

(Mr Lord) It could be a good medical secretary, but I have not had a good medical secretary now for four years because the rate of pay for medical secretaries in the National Health Service is so low that it does not attract people, especially in the south of England. It may be better up north, I have no idea, but in the south you cannot get a decent medical secretary unless she has got a rich husband and loves you, and that is the only way you can get one. The rates of pay are quite awful.

Lord Kearton

1237. I have one or two factual points. How many hip opreations are done roughly per year?

(Sir Geoffrey Slaney) I could not answer that, I have not got an orthopaedic figure here.

(Mr Lord) Our hospital, which serves quarter of a million people, is doing eight hips a week. That is a lot, is it not?

1238. I appreciate entirely what you said about the benefit of hip operations. What I am not very clear about is how these operations stand in relation to the totality of operations, whether they are 1 percent of operations or 20 percent or what-have-you. How many surgeons are there acting now compared with forty years ago when the National Health came in, twenty years ago and ten years ago? Has the number of practising surgeons doubled, trebled, quadrupled in those years?

(Mr Lord) In general surgery consultants have gone down as compared with ten years ago, but orthopaedic surgeons have increased in number, urologists have increased substantially in number and that work they are doing was being done previously by general surgeons, so you can say the surgical fraternity has increased but general surgery has not increased at all.

Lord Kearton] It would be interesting to have some figures about the number of practising surgeons, not just consultants, which presumably does include senior registrars and so on.

Baroness Lockwood

1239. Could I pursue that? I was interested in something you said earlier. I think I am quoting you correctly: on those occasions when you said the bulge in the career structure was being pushed down, if you are to have more people in your department to share the work as you indicated, then surely the bulge is going to get bigger. Does that mean that there needs to be a better outlet in terms of career structure, a widening at the top?

(Sir Geoffrey Slaney) My Lady, this is what we have been spending large slabs of time in the last ten years trying to convince the Department and the profession of, that this is an absolute necessity. Mr Lord said the overall figure of surgical expansion in the past decade has been 1 percent per annum. Now, general surgery has not expanded at all. We are a no-growth industry, and in fact we have about three less than we had ten years ago, but that is in part accountable for by the change that has taken place in the inter-speciality relationship. Having said that, in terms of the work force the Committee should know that the number of general surgeons per hundred thousand population in England and Wales is two per hundred thousand. Now, the staggering statistic is that even if we double that, which the profession does not want and which the Department and Government certainly cannot afford, we would still be the lowest in western Europe, so that is a measure of how far we lag behind our contemporary countries in the western world in the provision of surgical care at consultant level, so the answer to the question is yes, we certainly do want more consultant surgeons and there is work to be done, (if we got the ratios right of course, which the College is absolutely confident it can get right because we have worked this out in great detail.)

Chairman

1240. And this is the number of posts that are available not the number of people available?

(Sir Geoffrey Slaney) That is right. The career structures could be related, but this would inevitably mean there would be less registrars to provide surgical services. It means there would be less registrars to participate in research programmes, and it is a very delicate equation.

Lord Perry of Walton

1241. Going back to an earlier topic, over and over again I think you mentioned that the money was in the hands of the districts and regions for distribution. Is the power to decide between research on the one hand and other expenditures on the other in the wrong hands in that sense? Would it be a better idea if some of the money from the centre was distributed directly or earmarked directly for research rather than being distributed by the regions and districts?

(Professor Bell) Yes, I think it would be. I think it would be better provided if it was given to each district for peer reviews etc. Managers look after districts; they look after the Health Service of the district, and you can understand where research comes in their priorities. If they are talking about closing a ward or closing a clinic it is quite obvious, and I would do exactly as they do, almost certainly. They cannot see the benefit of research in relation to day to day practice—how can they? So it needs a bigger global view of the whole situation otherwise they cannot possibly be blamed or expected to cope.

1242. Have noises of that sort been made by the profession at all?

(Professor Bell) Well, I think the problem is that the Health Service, with the best will in the world, has not really been big on research over the years, and that is one of the problems. It has first of all to provide money for service and then start to talk about research.

1243. I am really asking a different question now. Has any branch of the profession made this case?

(Mr Lord) It is not an easy question because in clinical work it is sometimes extremely difficult to say what is research and what is not. You have got a man who is operating in the morning and then he goes and does something in the lab. in the afternoon.

1244. You misunderstand. I did not mean in relation to a particular project. Of course, I see the difficulty. I meant has any organised unit within the profession, like a College, made a case to Government for the centralisation of some money for research?

(Mr Lord) I think if you ask the Department, yes, we do that, but it is when it gets to the region——

Chairman

1245. Have you actively lobbied them and said "This is wrong and you should be doing this"?

(Sir Geoffrey Slaney) They will tell you at the Department "but every region gets an allocation of money for research", but the fact is, as we all agreed earlier, because of the current stringencies, that has now disappeared into the general financial commitment of the region. It is not earmarked in any way, and it would be fairly difficult. My own region for the current year is facing a deficit of £10 million. If you were to say to Sir James Ackers tomorrow "Here is £2 million but it is earmarked for research in the West Midlands and don't you dare touch it", you can imagine the situation that would arise!

Chairman] May I just put this to you: I think this is rather an important point of Lord Perry's. If, for instance, we should decide as a result of our deliberations to say there should be more research money allocated or hypothecated, in the various branches whichever they might be, it is very difficult if the Department comes back to us and says "Well, you say this but we have not had any representation from the profesion".

Lord Perry of Walton

1246. You are suggesting that what I asked was should the regional manager have an earmarked grant. That is an imposition, I agree with you. What I said was something quite different: should the centre earmark a sum that units within regions could all go to the centre for, so that you take away from the regional management this imposition of having to vote money for research where money is needed for other services in the region?

(Professor Bell) I think one of the problems that the Government or the DHSS have is they have already given money to the MRC. It is a different kind of money we are talking about. How do you actually organise that money? I suspect if you made another national body if you like like the MRC to administer the money you would have the same problem. In some way you have got to devolve that money to the regions where the research committee can give it out locally. We have one in Trent. The money they have to disburse is miniscule. It could be topped up enormously and they could have some kind of directive that they should lean towards operational research.

Baroness Warnock

1247. There is an alternative. You could imagine an alternative although it is probably quite unrealistic. If you took the analogy of education, for example, you could have the MRC on the one hand which was as it were pure medical research; you could have the money that was allocated to the regions and districts to spend on their hospitals, and you could have a sort of direct grant system by which the teaching hospitals could get money for research from government. I do not say this could happen in practice, but in theory it could happen and then the direct grant money could go on

[Baroness Warnock *Contd*]

training more surgeons who could then carry out the kind of part research part practice that you have been describing as so desirable. Now, that is a possibility which I would have thought it was worth exploring.

(Sir Gordon Robson) In Scotland the endowment funds of the voluntary hospitals were incorporated as the Scottish Hospitals Endowment Trust, and this funds research on a national basis against application, and I am sure Lord Perry would be able to tell you about that.

Chairman

1248. For Scotland?

(Sir Gordon Robson) Yes. I used to be a trustee of the Hammersmith Hospital special funds, and these funds are totally inadequate for the purpose for which they were originally subscribed, and they are used to make up clinical deficiencies, in the sense of an extra registrar somewhere or a technician somewhere, so I really do believe that would be what happened to most of these monies, and indeed they have not grown in the sense that an ordinary endowment fund for research properly managed would have done—certainly the last few years they should have kept pace with the cost of living. I would have thought that something like the Scottish Hospitals Trust system could be set up in England, and it would be of immense benefit for just the sort of thing that this Committee is in fact discussing.

1249. Would you think on a regional basis or national basis for England?

(Sir Gordon Robson) Well, it really started off when the Chief Scientist Department was set up in the Department of Health here. It was set up to try to do that and it did not succeed because it was decided that the only way they could grant requests would be through the MRC so that eventually the money reverted to the MRC and they do use it for clinical research. However when you look at how the Systems Board (the Clinical Research Board's successor) uses that money it is in fact on basic science and not on the sort of thing my surgical colleagues are talking about at all, because that is not attractive to the MRC. As Lord Flowers said, they are much more interested in molecular biology and setting up institutes for that which do not have any immediate impact on surgery, though of course in the long term they probably will. I do think that from a practical point of view something of the order of the Scottish Hospitals Endowment Research Trust would be a great help.

(Mr Lord) It sounds as though, if we had a Surgical Research Council as well as a Medical Research Council, we might solve the problem!

1250. Our time is moving on. Would you have anything to say to us about dental surgery which I think comes under the Royal College, does it not? Would you have any comments to make on the state of research in the dental field?

(Sir Gordon Robson) If I might help, my Lord, there is very small effort in dental surgery research in this country and quite a large part of it is concentrated in the College within the dental research department, and this is very well supported by the Medical Research Council. So we have in fact an extremely strong department of dental research but it is virtually the only strong one in the country and the only unit on a relatively permanent funding basis in dental research in England. So I think there is a great need for more money to be put into dental research in the country as a whole.

1251. Would you say priorities are wrong here or would you say they are about right? We have two points of view being put to us. One is that the success of dental surgery research has been such that many of the problems have now been solved, and the other that is put to us is that that is an illusion, it is not true, and there are important areas of dental surgery which ought to have more research resources made available to them.

(Sir Gordon Robson) I think there are important areas in dental research which need better funding, yes.

1252. You would support that?

(Sir Gordon Robson) Very much so.

(Sir Geoffrey Slaney) So would I, my Lord Chairman.

Chairman] I think we have covered the ground pretty thoroughly. We could go on a lot longer, I am quite sure, but may I thank you for giving your time up this afternoon. We appreciate it and are very grateful to you. We value your advice and your answers to our questions very much indeed.

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MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE I)

Thursday, 12 November [illegible]

THE SCOTTISH HOME AND HEALTH DEPARTMENT

A T F [illegible], Dr I S Macdonald, Professor Roy Weir, Miss M G Auld
Miss [illegible], Mr [illegible]

OFFICE OF HEALTH ECONOMICS

Professor George Teeling Smith

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THURSDAY 12 NOVEMBER 1987

Present:

Adrian, L.	Nelson of Stafford, L. (Chairman)
Erroll of Hale, L.	Perry of Walton, L.
Flowers, L.	Rea, L.
Hunter of Newington, L.	Sherfield, L.
Kearton, L.	Smith, L.
Lockwood, B.	Warnock, B.

Memorandum by the Scottish Home and Health Department

The Scottish Home and Health Department is the part of the Scottish Office which has responsibility for the National Health Service in Scotland. The policies and strategies for managing and developing the Scottish health service are determined by bodies such as the Policy Board, which has non-Departmental members and is chaired by the Health Minister and the Policy Group, composed of Departmental officials and chaired by the Secretary of the Department. There is influential input from advisory bodies such as the Scottish Health Service Planning Council and its sub-structure, which contain substantial numbers of eminent health professionals. In general terms policy is based upon the advice from the Scottish Health Service Planning Council contained in ‘‘Scottish Health Authorities Priorities for the Eighties’’ (SHAPE—currently under review) which recommends that high priority should be given to prevention, including the discouragement of personal habits which are injurious to health, such as smoking and excessive drinking of alcohol; and that there should be a general shift in priority of development within the national health service from acute services towards community and long term care, with special regard being paid to services for the elderly, especially and the elderly with mental disability, the mentally handicapped, and the mentally ill. Scottish health research priorities take account of these general policy considerations.

Following the publication of the White Paper ‘‘Framework for Government Research and Development’’ (Cmnd 5046) the Scottish Home and Health Department in 1973 appointed a part-time Chief Scientist and established its Chief Scientist Office through which research activity concerned with health is supported in accordance with the customer/contractor principle recommended in the White Paper.

Description of Chief Scientist Office and Objectives

The Chief Scientist Office within the Scottish Home and Health Department (SHHD) has the responsibility of identifying, encouraging, promoting and supporting research and development for the improvement of the National Health Service in Scotland. Research is mainly funded through grants to research workers based in universities and other institutions. These grants currently provide the support for eight long term research units, several major research programmes and a larger number of shorter term projects. While the majority of the latter are the result of spontaneous applications, priority is given to these where the research addresses, or can be modified to address, Health Department objectives. Research objectives within the Chief Scientist Office also take into account broader economic goals such as the cost effective management of the National Health Service and awareness of the need to identify potential opportunities for the commercial development of the results of relevant research. The total sum available for disbursement in 1986–87 was £4.1m.

Chief Scientist Organisation

The Chief Scientist Organisation (CSO) extends beyond the Chief Scientist Office and involves the commitment of policy makers and the research community. The scientific programme of the Organisation is guided by a part-time Chief Scientist (Professor Sir Patrick Forrest until 31 March 1987; Professor Roy Weir from 1 April 1987). He is supported by various standing advisory committees and by a team of research management staff who constitute the Chief Scientist Office. The team consists of a Director and supporting professional and administrative staff and functions as a Division of the Department which is responsible to the Chief Scientist for scientific matters and to the Secretary of the Department for financial matters. The standing advisory machinery comprises (i) the Chief Scientist Committee, chaired by the Chief Scientist, which is the main research policy committee; it co-ordinates the advice of the specialist committees, assesses relative research priorities and the achievement of objectives, advises on financial allocations and ensures that an appropriate balance is maintained within the overall research portfolio: (ii) standing specialist advisory committees; two major ones, the Health Services Research Committee and the Biomedical Research Committee, and a group of three dealing with various aspects of equipment research, the Committee for Research into Equipment for the Disabled, the Equipment Evaluation Panel and the Equipment Research and Development Panel. The sources of advice for all the Chief Scientist Organisation Committees cover four components: research management (the Chief Scientist and the Office), academic research workers from disciplines concerned directly and indirectly with the Health

Service, policy makers from the Department and the Health Authorities (customers), and Health Service practitioners.

(a) *How are priorities for medical research set? How do these reflect the particular needs of the National Health Service, or more generally the health needs of the nation?*

Within the Scottish Home and Health Department the Chief Scientist is a member of the Policy Board and Policy Group and he, or the Director of the Chief Scientist Office, is a member of other key bodies that guide the development of health service policies and strategies. Within the wider United Kingdom context the Chief Medical Officer and Chief Scientist of Scottish Home and Health Department attend Council meetings of the Medical Research Council and are full members of its Boards so that they can identify areas in which the Health Departments require research to answer health problems. Thus an awareness of requirements for research is established. Priorities are discussed at Chief Scientist Committee meetings, at its sub-committees and informally within the Office. Monthly meetings with the Chief Medical Officer and his deputy allow informal discussion on urgent needs of the service. Over the years, the Scottish research community has been made aware of fields in which the Chief Scientist Office would wish greater development and the Chief Scientist reviews and updates the published list of priorities each year. The published list for 1986 is attached at Annex A. For example a specific issue mentioned in the list where research requirements were under review was alternative patterns of care; that review subsequently identified team work as a specific priority and an invitation to submit applications on appropriate research topics has now been published (attached at Annex B).

Inevitably research workers take advantage of new concepts and adapt these to their own areas of interest. Changes in scientific knowledge and medical practice quickly lead to some fields gaining temporary, even semi-permanent, prominence in research portfolios. Additionally, the Chief Scientist Office attempts to respond to new or changing emerging research requirements from the policy and management processes of the health service and these are brought to the attention of the research community or are the subject of formal commissions. It is against that fluid background and across a wide spectrum of research fields, that the Chief Scientist Office and its committees determine their research portfolios.

In general the priorities for medical research are determined by the need to have answers to current health service objectives, subject to the proviso that such research is likely to provide the desired answers. The composition of advisory committees, with input from policy makers, research workers and health service practitioners, allows research to be determined from a combination of the problems posed by health needs and the feasibility of addressing these problems by research.

(b) *Is the present balance between different branches of research right? Assuming that resources are limited, what programmes might be cut back, in order to allow those which should be given higher priority to expand? What programmes need higher priority? Would priorities change in the light of increased resources?*

Within the biomedical research area emphasis is already given to research which has the potential for clinical application but applicants proposing to undertake basic scientific biomedical research, and those requiring extensive resources, are encouraged to approach the Medical Research Council. In areas where the Chief Scientist Office wishes to encourage greater quantity and quality of research for example mental handicap, psychogeriatrics, community care etc., professional officers will spend some time giving informal advice on the development of research proposals. The balance between one area of research and another is dependent upon the availability and quality of research skills in the new priority areas and resources may have to be allocated to new ventures in such areas where the scientific quality of research is not initially of a good standard.

As requests have always exceeded resources it has never been feasible to support all research of potential merit. Accordingly as resources become relatively more limited greater attention has to be paid to scientific merit as the less soundly based, despite the priority for health service purposes, are less likely to produce an assured return on the investment. Inevitably this aggravates the problem of maintaining an appropriate balance and makes it more difficult to respond quickly to new priorities. The balance of CSO priorities for research is reviewed annually on the basis of a report and forward look programme from each research committee, and these reports in turn are reviewed by the Chief Scientist Committee. In general terms having fewer available resources means a smaller number of priority areas and, similarly, less work in all areas.

In general the priorities for medical research are determined by the need to have answers to current health service objectives, subject to the proviso that such research is likely to provide the desired answers. The composition of advisory committees, with input from policy makers, research workers and health service practitioners, allows research to be determined from a combination of the problems posed by health needs and the feasibility of addressing these problems by research.

(c) *Are priorities in medical research adapting to changing incidences of disease, changing population structures and new technology?*

Priorities in medical research are adapting to changing circumstances. This is exemplified by the sudden appearance and spread of acquired immune deficiency syndrome (AIDS) in Scotland and the expenditure of research funds to meet this challange: however, in relation to certain aspects of the problem such as the epidemiological requirements, established research workers in other fields have been very slow to adapt their expertise to meet the challenge. Similarly there are areas such as mental handicap and psychogeriatrics in which the Chief Scientist Committee would like to see an increase in good research, but there is again a dearth of applications in areas such as these because of the lack of research workers of adequate calibre who can be encouraged to submit research proposals.

Research is particularly invited for areas where there is known to be substantial and/or increasing demand for health resources such as in the care of the elderly and the promotion of health in areas of multiple deprivation. Changing methods of provision of health services, as in outreach approaches from hospital to community or the various emerging patterns of primary care, also call for research effort. Health economics and operational research techniques are bringing new insights into the management and organisation of the health service. It is also expected that the introduction of general managment into the health service will lead to increased demands upon the Chief Scientist Office for organisational and operational research.

The rapidly advancing technologies in biology and electronics, by aiding insights into disease and introducing new diagnostic and therapeutic possibilities, will in themselves prove a major force in determining new priorities by offering opportunities for research in areas which hitherto were inaccessible to study because of lack of reliable methodology or data.

As has already been stated policy meetings of various kinds within the Scottish Home and Health Department are attended by the Chief Scientist or senior staff of the Chief Scientist Office, thus bringing priority needs quickly to their attention. This facilitates seeking new research, or modifying ongoing research, which takes account of such requirements.

(d) *How are priorities in medical research influenced by the institutions through which research is funded? How does the balance between public, commercial and charitable funding or research affect the setting of priorities by the different institutions involved?*

Priorities in medical research are inevitably influenced by funding institutions. In certain charity-funded bodies, there may be a special emphasis on a particular research topic, for example cancer, heart disease, arthritis, etc. In these cases the priorities are determined within a restricted sphere of research.

Commercial funding of medical research has come largely from the pharmaceutical industry although a limited number of projects have been sponsored by manufacturers of health care equipment or supplies. A few projects have been funded jointly with such sources and the Chief Scientist Office of the Scottish Home and Health Department has recently established a closer liaison with the appropriate sections of the Industry Department for Scotland and Scottish Development Agency which deal with the Health Care Industries. This is leading to benefits in that the Chief Scientist Office receives advice on possible commercial developments arising from research and attempts to develop Health Care Industries are based upon better medical and scientific advice.

Publicly funded medical research in the United Kingdom is mainly the responsibility of the Medical Research Council but the Health Departments also have a role. The Chief Scientist Organisation has a comparatively small budget of £4.3m for 1987–88. Its policy is to support research which might lead to improvements in health or health service provision in Scotland in a way that interlocks with research supported by other agencies. On occasion there have been jointly funded research ventures with DHSS, MRC, ESRC, and also the Scottish University Medical Schools.

(e) *Are the results of research adequately disseminated?*

The results of research are well disseminated through publication in specialised and general journals, but this in itself is not enough. The dissemination of useful information does not necessarily result in implementation, and the implementation of pertinent research findings into service privision can be slow. The Chief Scientist Office has made serious efforts, by methods such as the circulation of reports of policy makers or the organisation of seminars or workshops, to make the results of research available in the best format to those planning and managing the Health Service. Efforts are also made to ensure that where research is capable of commercial development this is done in a manner that either directly benefits the health service or another of the Secretary of State's areas of responsibility. Indeed, one of the criteria when a research report is assessed by the Chief Scientist's Committees is the extent of appropriate dissemination.

Where research funded from the health budget has implications for policies in other parts of the Scottish Home and Health Department or other Scottish Office Departments, there is communication with appropriate policy and research interests in, for example, Criminal Justice, Education, Agriculture, Environment, Social Work and Industry.

(f) *How is unnecessary duplication of research effort avoided?*

Professional officers concerned with research management in the Health Departments, the Research Councils and charities maintain liaison which by and large avoids problems of duplication. The peer review system, which acts primarily as a safeguard to preserve quality of research, also serves to prevent undesirable duplication of effort. Confirmation of important scientific findings is usually thought of as an essential requirement which should not be confused with unnecessary duplication.

There is a very close co-operation between the Chief Scientist Organisation and the MRC and ESRC. The Chief Scientist and Chief Medical Officer it with the MRC Council and are members of its scientific Boards. There are also 3 nominees of the Health Departments on each MRC Board. Professional officers concerned with research management maintain close contact with their counterparts in each organisation.

There is also co-operation between the Chief Scientist Office and the Research management Division at DHSS. This is exemplified by a wide variety of joint funding ventures.

(g) *Is research reflected as it should be in actual improvements in patient care or health education? If not, why not?*

To take first the difficult field of health education, the problem is that health awareness does not seem to carry much weight in many sectors of the community. We have in our primary care system an opportunity which few other countries enjoy to educate the public in health matters but health promotion is difficult against background of multiple and prevention of sickness. In 1983 the Chief Scientist Office together with the Scottish Health Education Group and the Economic and Social Research Council, established its Research Unit in Health and Behavioural Change. This Unit, as a main part of its remit, has explored different approaches; it also acts as a source of advice on programmes of health monitoring among the Scottish population.

There has been increasing evidence that to achieve the benefits from the knowledge imparted by health education it is necessary to put additional effort into motivation towards positive action and into recognition of the risks of negative action. There is also evidence that in many instances it is necessary to focus upon particular sections of the community, perhaps among children and adolescents. The results of research in fields related to health education, such as drugs and alcohol misuse are also being reflected in developments in health education in schools. A higher priority is being accorded to this area of the curriculum, in recognition of the importance of healthy lifestyles for the future of our young people. Specific curricular developments are taking place, for example support for teacher training and for curricular materials for drug education, and the development of a health studies course as part of the introduction of Standard Grade examinations for 16 year olds in Scotland. Health education for 10–14 year olds is currently being considered by a joint working group of the Consultative Committee on the Curriculum and the Scottish Health Education Group, and there will be further work on health education in relation to the issues raised by the AIDS crisis. Research on the problems themselves and on the effectiveness of different methods of tackling them is taken into account in work of this nature.

In the case of clinical and health service research, there may be a need for special arrangements to bridge the gap between the point at which a development passes beyond the research stage, when it ceases to be the responsibility of the research organisation to fund it, and the point at which it can become the responsibility of the service providers. In general, important clinical advances are applied quickly. Health service research results are not so easily translated into service provision, perhaps because the results of objective and detached research require to be developed and extended in the real environment of health service provision. Implementation often also results in an initial requirement for new funds and this can cause substantial difficulties even if subsequent recurrent costs of the improved procedure are not increased. If research results require further evaluation in practice in the Health Service, or special methods of implementation, the Department can fund a single Health Board to pilot the novel provision of health care. At the end of a defined period of this type of support an evaluation would either show that the advance was sufficiently worthwhile to be incorporated in the Health Board's normal provision of health services, or the novel service would stop. However even if shown to be successful, problems of implementation may remain.

The results of health service research may take a considerable time to be implemented. This is possibly because of the inherent slow response time of adapting organisational changes into even stable systems of management and it may be even more difficult for this to happen at present against the background of major changes in the management of the Health Service. The Chief Scientist Office has initiated a dialogue with the new General Managers and it is to be hoped that they will be receptive to planning on the basis of results from operational and health service research and more likely to implement changes in services in a way which will permit evaluations of outcomes.

Responsibility has been located for the evaluation of health service equipment within the Supplies Division of the Common Services Agency of the health service as it is responsible for advising on the purchasing of equipment. While this makes research management more diffuse it should enable the results of the research to be rapidly implemented in subsequent practice.

(h) *What changes in priorities in the training of medical researchers are needed?*

Constraints on training in medical research are generally considered to be quite substantial. Initially the undergraduate curriculum has to prepare graduates for standard clinical practice and there are only limited opportunities for intercalated science degrees. Post-graduate training programmes for doctors have a strong emphasis upon clinical practice and can make it difficult to foster training in research skills. The other health care professions have a negligible research input during primary, or subsequent, training. The new Medical Research Council career scheme for clinical scientists may help within the limits of the funding available. There are difficulties for those who are trained in clinical science because of the diminishing opportunities in university posts and because at present there are few career jobs within the health service for clinical scientists.

Health services research also requires practitioners and trainees of high quality but there are very few apart from a limited supply of health economists. Against this background, the Chief Scientist Office established last year a Health Services Research Unit. However the build up of staff at this Unit, and its training functions, will be slow as the resources for these objectives will have to be diverted from other projects which themselves carry a measure of priority. Notwithstanding these difficulties the development of training in health service research will have an increasingly high priority with the prime objective of improving the quality of health service research applications generally.

(i) *Should any specific changes in organisation or funding be made in order to increase the quality, quantity or application of research?*

Changes in organisation do not seem required but it is arguable that there could be a redistribution of health service funding to increase and improve the present research base. Potentially good research is not at present being funded and increasing numbers of trained post-doctoral scientists are not able to find appropriate research posts. However a redistribution of funding to enable more useful research to be undertaken would inevitably reduce the amount available for service needs. It is possible to argue that potential benefits from research are being foregone, but immediate service needs are pressing.

THE NURSING RESEARCH UNIT, UNIVERSITY OF EDINBURGH

DIRECTOR: DR A J TIERNEY GRANTHOLDER: PROFESSOR P PROPHIT

The Nursing Research Unit was established in October 1971 with provision for 7 year funding support from the Scottish Home and Health Department.

The Unit is based in the Department of Nursing Studies at the University of Edinburgh and the Unit Director holds appointments as a Senior Lecturer in the host Department. The Director is supported by 2 Research Fellows and the four other Unit members are appointed as Research Associates within the University.

The functions of the unit are to carry out operational research studies on any aspect of nursing activities throughout the National Health Services in Scotland; to assist where requested, the implementation of studies carried out by the unit, or elsewhere throughout the National Health Service; to build up the general expertise and knowledge of health service operational research in the nursing field throughout the world and to disseminate such information in an appropriate form with appropriate follow-up; to provide advice and assistance in studies in the nursing field carried out by the National Health Service themselves where the unit expertise is relevant; to provide operational research and teaching material for the courses established in the Department of Nursing Studies and such other educational activities as the advisory committee decide are appropriate; to provide a suitable training mechanism for research workers in the nursing field of the health service. The resources of the unit are available to the academic staff of the Department of Nursing Studies, Edinburgh University, who, in return, provide assistance on academic matters required by the staff of the unit, subject to the approval of the departmental head.

Support of the Unit by the Scottish Home and Health Department is subject to formal review by the Chief Scientist. Current support is £149,730 per annum. Additional research project grants from our resources are £24,418 per annum. These projects are concerned with the Evaluation of the Examination System in relation to the New General Nursing Council for Scotland Syllabus and the Assessment of the Effectiveness and Efficiency of the Modular Schemes of Basic Nursing Education and Training.

The first Director Miss L Hockey (1971–1982) built up the research programme in a ''brick-by-brick'' fashion, on the basis that most research in a new area often raises more questions than it answers. The

Chief Scientist Office recommended in 1975, however, that the Unit should develop a ''core programme of research'' particulary into ''aspects of communication in nursing''.

The second Director (1983–1984) initiated a survey of nursing research priorities which it was considered could contribute to decision-making concerning future directions of the Unit.

The present Director, Dr A Tierney, took up her appointment in 1984 and the present core programme was endorsed by the Chief Scientist in January 1986.

The new core programme incorporates projects on three central concerns, reflecting theoretical, methodological and practical aspects of nursing research. The unit's theoretical research is based mainly on the concept of ''coping'' and includes both the physical and psychosocial dimensions of nursing. Methodological research is concerned with the development of methods for observing, measuring and evaluating actual nursing practice. Research on nursing practice includes studies of the physically disabled, maternity patients, surgical patients and women being treated for breast cancer.

By virtue of being members of the Edinburgh University Department of Nursing Studies, Nursing Research Unit staff have the opportunity to be involved in teaching and make some contribution to both formal teaching and clinical supervision of students on the undergraduate degree/nursing programme; and to teaching and dissertation supervision of students on the MSc (Nursing Education/Administration) courses. The Unit staff may be appointed on a formal basis to act along with teaching staff as academic supervisors to postgraduate research students (currently 7 research students).

Within this group of research students, Nursing Research Unit staff have a particular responsibility towards the Scottish Home and Health Department Nursing Research Training Fellows. The Unit also provide a 27-session course on ''Introduction to nursing research'' during the first year of the Fellowship (this is available to other nurse postgraduates). The Nursing Research Training Fellowships scheme began in 1967 and offers 2-year awards to nurses for research training. Of the 48 Fellowships to date 31 have been held in the Nursing Research Unit.

Among other research education/promotion efforts of the Unit aimed at the wider nursing community of particular interest are the research Summer Schools. To date 26 Summer Schools have been held, involving 570 participants drawn from all branches of nursing and, though mainly from Scotland, also representing other areas of the United Kingdom and with small numbers from abroad. In addition Study Days for nurses aim at combining dissemination of information about Unit Research activities with research education. Joint Research Unit/University Department of Nursing Studies seminars are held approximately 12 times a year and are open to all members of the nursing profession.

The Unit provides a service to the nursing profession by acting as an ''information and resource centre''. Requests are received for research advice and information from individual nurses and organisations, and for visits to the Unit from nurses within and outwith the United Kingdom. In some instances, one-off consultation extends to a longer-term contact and informal supervision has been provided for nurses in the field who are undertaking research projects.

The Nursing Research Unit will be reviewed formally in 1989.

Scottish Home and Health Department
December 1987

Examination of witnesses

Dr I S Macdonald, Chief Medical Officer; Professor Roy Weir, Chief Scientist; Miss M G Auld, Chief Nursing Officer; Miss P A Cox, Under Secretary, Dr A T B Moir, Principal Medical Officer; and Mr I F Munro, Principal, Scottish Home and Health Department, called in and examined.

Chairman

1253. Good afternoon, ladies and gentlemen. Is Dr Macdonald leading the team?

(Dr Macdonald) Yes, my Lord.

1254. May I thank you and your colleagues for coming along and giving up your day to come and give evidence to us this afternoon. We very much appreciate that, and what you have to say I am sure will be very useful to us and, if I may say so, your very thoughtful report was excellent. We found it most interesting reading, and it touched on a number of matters which are very relevant to us. Members of the Committee are all named around the table. Perhaps you would like to introduce your team to us.

(Dr Macdonald) Yes, thank you, my Lord. On my immediate left is Miss Cox, Under Secretary in the Scottish Home and Health Department, and further to the left is Miss Margaret Auld, Chief

[Chairman *Contd*]

Nursing Officer. On my right, immediately on my right, is Professor Roy Weir, Chief Scientist, Scottish Home and Health Department. On his right is Dr Moir, who is the Director of the Chief Scientist Office in the Scottish Home and Health Department, and on the extreme right is Mr Munro, who is Principal in the Chief Scientist Office in the Home and Health Department.

1255. Thank you very much. Before we start the questioning, is there anything you would like to add to your paper?

(Dr Macdonald) I do not think there is anything immediately, my Lord. I think we tried to approach the questions which you posed in as broad and I hope as adequate a manner as we could. I think we would be pleased to answer any questions on them or on other matters.

1256. Fine. Well, if I may initiate the questioning from the Chair, I was most interested in the arrangements you have for administering your research effort up in Scotland. Could I ask whether you have any comments to make on the arrangements for administering the priorities of research? Are you reasonably satisfied with them?

(Dr Macdonald) Well, I think we would say we have given this a good deal of thought over the years and that we were reasonably satisfied with the structure. We recognise that, whatever structure we may have, attention has always got to be given to the interrelationship between that structure and other parts of the Department. I think we are particularly pleased with the arrangement which enables us to employ a Chief Scientist on a part-time basis—and I did not add when I was introducing Professor Weir that he is Professor of Community Medicine at the University of Aberdeen—and the practice in Scotland from the beginning has been to employ a Chief Scientist on a part-time basis. I think that gives us the advantage of immediate advice from someone who is familiar with the academic and the research field, and through that it gives us very valuable contact with that particular field.

Chairman] Yes, I think that is very important, because one of the things which is apparent to us from the evidence being given to us is that the research side and the operational side of the Health Service seemed to be rather two separate functions, and it is rather surprising, as you go back in history, that research has not been a bigger element in the National Health Service operation, bearing in mind its size and complexity.

Lord Hunter of Newington

1257. Do you still have regular meetings with the deans of the medical schools in Scotland?

(Dr Macdonald) Yes, my Lord.

1258. How often?

(Dr Macdonald) Routinely about twice a year, and occasionally we have *ad hoc* meetings for other purposes.

1259. What sort of things would you discuss at these meetings?

(Dr Macdonald) The meetings tend to be concerned more with the interrelationship on the education side rather than on research. We occasionally have fairly substantial issues if there are significant changes taking place, but more often we have discussions about matters like NHS staffing and how these things relate to the positions in universities and the universities' requirements.

Chairman

1260. One of the things which struck me, reading through your paper, is the attention which you give to economic goals, as you define them, broader economic goals such as cost-effective management in the National Health Service, which you refer to again at (g), what improvements you see, and you earmark a number of similar sort of things here, such as "explored different approaches to the promotion of good health". That is a very important aspect of research, particularly within our terms of reference, namely, the needs of the National Health Service. I wonder if you would like to amplify that a little more, because you seem to give more attention to that in Scotland than has been apparent from evidence we have had from elsewhere.

(Dr Macdonald) Thank you, my Lord. I think I would begin by saying that research, of course, covers a very broad spectrum of activity, from at one end—if one begins at that particular end—fundamental research to research that is shading rather more into practical day-to-day activities. I would like to ask the Chief Scientist to elaborate on this in a moment, but I think our view would be that we are operating more towards the day-to-day problem-solving areas of the Health Service; the more fundamental research is for others, and I think we would feel that it was right that we should give attention to that end of it, and indeed, I think it would be fair to say that three of the units which we have set up, either on our own or in collaboration with others, are really devoted to that sort of activity. There is, for example, a research unit in health and behavioural change in Edinburgh; there are two units in Aberdeen, a health economics research unit, which has been operating for some years, and quite recently we have added there—it has just become established—a health services research unit. I think perhaps, having said that, if you would allow me, I would ask Professor Weir if he would care to comment.

(Professor Weir) Thank you very much, my Lord. I think one of our advantages has been the close relationship between the universities and the relevant health authority, and indeed, the work that is being referred to in terms of economics arose from the membership of one of the health boards of an economist. Out of that grew a project, which was so valuable that we then set up a unit, which has been both carrying out independent work, advising the various committees, and collaborating with other research workers in Scotland, so that it

[Chairman *Contd*]

has given us a certain advantage in that area, and we now have a team of about seven economists working in that particular unit, who are, as well as doing independent research work on their own, available to help others interested in other projects and to offer advice and consultancy.

1261. Do you find that studies are welcome within the service or are they viewed with a certain amount of suspicion?

(Professor Weir) It varies. I think that would be the only fair answer. There are particular ones where advice has been sought; then quite clearly it is possible to have considerable input. In terms of things like option appraisal and looking at aspects of building programmes and so on there has been close association. In some of the other areas where there is more independent work looking at particular issues within health care I think there is a general problem of implementation. It is all right to disseminate reports and to give people the opportunity to read articles that are published, but at the end of the day it is really a matter of changing the attitudes of both clinicians and managers to introduce change and that, I would have to confess, is where one has perhaps the greatest difficulty. So for directly commissioned work most certainly the messages are well received.

1262. Within an organisation of the size of the National Health Service would you say from your experience that there would be considerable scope for improvement in effectiveness by a greater allocation of resources to this type of research?

(Professor Weir) Perhaps if I start off, I think there is tremendous scope. There is clearly within the health authorities themselves a tremendous amount of work that can be done and, indeed, my own feeling is that that is where the basic work has to be encouraged with the people from the universities and from the research units going out and working with the administrators and, indeed, the professional staff within the Health Service. One of the difficulties—and I am sure other people have indicated this to you—is that, if you want actually to change the way in which services are organised, there are tremendous knock-on effects because of the complexity of the Health Service, so where you are able to identify a discrete service, then I think it is possible quite rapidly to make improvements. Where in actual fact there are implications, then it impinges indeed on community services, local services and there is a lot of negotiation which is actually beyond the research stage and related to implementation. So most certainly the scope is there: of that there is no doubt. What we now have to do is build up the effective communications with various groups with whom one has to collaborate.

1263. Taking that a stage further, it has been drawn to our attention during the evidence that outside consultants have been employed in some cases to make such inquiries. What would you see is the merit of going to outside consultants when you have an experienced body in a university like Aberdeen? Why are they not brought in to do the job rather than outside consultants who have no knowledge of the Health Service?

(Professor Weir) I think the main reason for going to consultants is simply by the nature of their organisation they have more flexible time schedules and are able to devote resources more quickly. Certainly, for example, if requests were made it would be possible for our unit to respond to some of them, but the problem, of course, is if you have a programme of work and you keep getting *ad hoc* inquiries, then it in fact distorts the work that is being done. On the other hand, again back to the point I was making earlier, if in actual fact you can define some discrete service or a component of a service where you are able to put in, as it were, a commercial package, then I think the use of external consultants is actually very useful and where it is relating to the more complicated issues I was mentioning again I think they are actually at a disadvantage and they have much to learn about the organisation and the foibles of the Health Service.

1264. Does this group in Aberdeen work directly with you at the centre of your structure, or does it work direct with individual hospitals or districts?

(Professor Weir) Being part-time, I wear two hats. So in my capacity as Chief Scientist, then they are responsible to me for the work. In my capacity as Head of Department they are within the department that I run and I collaborate with them in terms of the work that we do, and they are working directly with the health authorities, not through the Chief Scientist's Office. So they are approached by whichever group or particular health board it is.

1265. Applying it to the United Kingdom as a whole, you would see this type of Health Service research better done directly with the local authorities or district authorities, or maybe even individual hospitals, rather than with the centre?

(Professor Weir) My own view is that, if you have a degree of decentralised working in regions, then there is certainly much more easy contact than going through some central organisation. Indeed, that is one of Scotland's advantages—its size.

1266. I can see that, yes. What about the funding? Is there any funding of the lower levels?

(Professor Weir) Yes, my Lord. What happens is that we are called in. We then go down and discuss with the people the nature of the problem they are presenting. We then indicate what we believe will be involved and then offer a proportion of the unit's time—perhaps the senior members of the unit. If we then have to employ people for data collection, what we try to do is to organise that so that it is supervised by the health board and, indeed, we then on occasion have arranged a fee that is paid to the unit so that it is to an extent paid for by the health board that is carrying out the work. The ironic thing is that when we offered our services free nobody was very interested, when we charged fees not only did they listen, they even implemented.

Lord Hunter of Newington

1267. How far have they come to depend on the Chief Scientist's Office for guidance and help about priorities and research?

(Professor Weir) In terms of the individual health boards?

1268. Well, the regional health boards and the doctors themselves in the hospitals?

(Professor Weir) Could I go back to a point that perhaps Dr Macdonald was making? I think there are two activities that come under the umbrella of research. One is problem solving or operational research where in actual fact you are really applying knowledge that has been gained elsewhere or in other situations. That is mostly the area in which we are working with health boards, rather than with independent studies of projects which are trying to advance knowledge by obtaining information. Certainly that is an area where we try to provide the service and indicate what we believe the priorities are.

1269. On the first of these I think there is a special interest because you must develop the skills of persuading people to change their lifestyle.

(Dr Macdonald) If I may make a comment on that, I think this identifies two parallel complementary aspects of the problem. One is to carry out the research which builds up a body of knowledge about how services may be provided and ways in which they may be more effectively provided. The other is to persuade the people in the field to have regard to this. I think we have given attention more to the first than to the second and I think we are beginning to address the problem and I know that the Health Services Research Unit in Aberdeen is very much concerned with the problem of how, having established more effective or more efficient ways of providing services, you persuade people in the field to do this. In the Health Service it seems to be peculiarly difficult because the Health Service is largely made up of professionals treating patients with considerable degrees of professional independence. We have been beginning tentatively in various ways to try to persuade doctors through their area medical committes that they should indeed be looking for and taking up different ways in which the services might be provided and making proposals along these lines, because I think there are two ways in which this can happen. One is that the professional people themselves take it up and consult with management about it. The other is that management takes it up and passes it on. There is room for both but I think management taking it up in a service which is so highly professionalised can be quite difficult. My involvement obviously is mainly with doctors. We have the Chief Nursing Officer here, she may have a view on it in relation to nursing.

Chairman

1270. The problem here is one of what you might call changing people's practices or habits or what-have-you, which is not very easy, I should think; it is difficult to do.

(Dr MacDonald) It *is* difficult to do. I think that there are indications that it is beginning to receive a somewhat more sympathetic reception in the developing climate of management and the development of priorities and more close attention to the ways in which money is spent.

Lord Hunter of Newington

1271. Would you get support from the royal colleges in Scotland? We have talked to them about this. How would you view this? Are they the kind of people you can turn to for support?

(Dr MacDonald) We have indeed turned to them some months ago, a year or so ago now. We did send out from the Department a letter to various professional organisations saying that we were proposing to do something of this kind, and that we would be trying to help it along by identifying things that might be brought to the attention of committees locally. The colleges, I think, find themselves in something of a dilemma. I think it is fair to say they were generally supportive, but underlying this there is the difficulty which some of them see in that this may be thought to conflict with the maintenance of standards. This is a difficult issue. To be realistic about it, one obviously wants to maintain standards, but the standards have to be maintained within a certain availability of resources, and I think at the moment that is causing a little difficulty in some minds in college circles.

Lord Perry of Walton

1272. I may be being very stupid, but I have not got clear what funding is about. As I understand it, there is problem-solving work and also research in new studies. With problem-solving, as I understand it, the people who want the problems solved pay for it, whether it be a region or a district or an authority of some other kind, but who pays for the new studies and, secondly, who are the staff employed by in the units?

(Professor Weir) If I can start off, the units are funded by the Chief Scientist's Office. When we go along to a health board what we then attempt to do is to recruit additional staff to help with the work. Very often the people that we can recruit have not really got the skills, so we have to use the people who have been in the unit for some time, who have built up the expertise and can act as consultants. We then use the additional staff that we are funding to help with the basic research work that is going on within the unit. To identify them as clearly as that is very difficult, because we manipulate the resources that are available to us. By and large we attempt, in terms of our costs, to break even for the consultancy work that we do with health authorities. On other occasions, of course, when we are very anxious to get into a particular area with a health board, we will go and offer to do work there for which we do not charge in order to give us access to

[Lord Perry of Walton *Contd*]

data and to services, to be able to do things. So it is a mixture.

Chairman

1273. Where does the funding for that come from?

(Professor Weir) The funding for the latter that I mentioned, where we go out, is clearly from the Chief Scientist's Office, from the staff we have in place.

Lord Sherfield

1274. There is no subvention from the university?

(Professor Weir) I suppose I am subvented, sir, as I work with all the teams.

1275. But nobody else?

(Professor Weir) Sorry, yes. The other members of the Department of Community Medicine who are funded by the UGC are in various ways involved in the work that goes on—not always with the same unit or the same activity.

1276. That is not charged back?

(Professor Weir) We have not really charged that back, because we do not take part really in the consultancy as such.

Chairman

1277. With this interchange of people that you have referred to, there is a rather useful educational process going on at the same time, is there not?

(Professor Weir) Indeed, That is another purpose of our unit. For example, in the Health Economics Unit we run courses for the health care professionals, giving them a basic grounding in economics, and we are hoping to negotiate with the health boards that there will be sufficient people in the Scottish health boards now for them to undertake work on their own, because they are building up people with a lot of experience.

1278. And by bringing them into your studies, you are adding to that knowledge and experience, and they go back with that extra knowledge.

(Professor Weir) That is it.

1279. That is very valuable.

(Professor Weir) Scotland is also hoping to set up a small group between health boards of individuals who are involved in this work for the same reasons you are mentioning, so that there is communication and experience gained is exchanged, and one board hears what another is doing.

Lord Flowers

1280. My Lord Chairman, I have two quite different questions, if I may. The first is: I am not a Scot, but it is my impression that things are very often done better in Scotland. If for the purpose of this question we can just treat Scotland as if it were another region of the UK from a National Health Service point of view, how does your Region, Scotland, compare (in the subject we are talking about, of course) with other regions of the UK? Do you in fact do better in some ways? If so, in what ways? Are you different?

(Dr MacDonald) Yes. We are different in the sense, as has already been mentioned this afternoon, of being smaller, with a population of five million. We have four universities with medical schools and a considerable amount of interchange of all kinds taking place between these medical schools. I understand (but I would not want to speak with any authority on it) that in England the arrangements inevitably are more complex, because the DHSS is overseeing a very much larger population which is divided into—I think it is—fourteen regions which are quite substantial, and there are ways of allocating money so that some matters are handled at regional level. I think we have a considerable advantage in being able to handle the whole range of Health Service research within such a small population.

1281. But you must, I am sure, compare yourself with what goes on in the rest of the UK. You must make use of research results from all over the world, I imagine.

(Dr MacDonald) Yes.

1282. So you must ask yourselves whether you are doing better or worse and what your special requirements are, and so on.

(Dr MacDonald) Yes. It is difficult to know how one should answer this question. In some areas, such as health services research, I think we are doing reasonably well. I do not think I would like to claim—perhaps the Chief Scientist would feel I should—that we are doing better, but there are many good things that come from other parts of the UK and elsewhere, and I do not think I would want to over-stress what we do.

1283. Thank you very much. May I turn to my second question, which has to do with nursing, which you have mentioned in passing? I would like to ask Miss Auld in particular, if I may, whether nursing requirements for research are fed into the research requirements that you try to deal with, and if so, how, and who does it, and with what result?

(Miss Auld) Scotland started the first nursing research unit in the United Kingdom a considerable time ago now, and this is funded through the Chief Scientist's Office, but is an integral part of the Department of Nursing Studies at the University of Edinburgh, which started the first graduate course for nurses in Europe. It has a dual function, in that it has a core group of nurse researchers, who undertake particular research projects. It has a very large educational function, in that it runs a summer school every year, which a large number of nurses attend to be taught research methods. At the same time the Department also gives annually three nursing research training fellowships. These are fellowships which last two years, and quite often

[Lord Flowers *Contd*]

the nurses will continue in their study to take a masters or doctoral degree, and we also offer part-time courses—two, usually, per annum—and these are like the full time fellowships awarded through competition; nurses are asked to present ideas for projects or develop an interest in research. We also try in our basic educational courses to inculcate in all nurses a research awareness—that has become an integral part now of nurse training—so that at least nurses are aware of and have an understanding of research. But I have to say that we are a huge profession and it is a very complex profession in that we are working in so many areas; we also have a large turnover of staff and the need, therefore, to keep research education going is very great. There are some problems related to nursing research in that some of the nursing research issues are not susceptible to criteria laid down for medical research, so we have to look to new ways of judging research proposals.

1284. Could we have one simple measure? How much money is spent per year in Scotland on research that is intended to improve the nursing care given to patients?

(Miss Auld) £160,000 is spent on the Nursing Research Unit—that is the funding that goes from the Chief Scientist—and £75,000 per annum on the Nursing Research Training Fellowship. Then there will be—I am afraid I cannot give the exact figures, my Lord, but I could try and do some work on this—a number of nurses involved in a range of research projects where they will be working with medical staff who are undertaking research. We also have a number of other research projects under way which have gathered funding from other sources like Nuffield and the Scottish Hospital Endowments Research Trust. The Trust has funded a fairly large study in Scotland.

Chairman

1285. If you have any figures for that, it would be useful.

(Professor Weir) May I expand a little bit? In addition to the work that Miss Auld has mentioned there is also, of course, the inevitable involvement of nurses in all forms of provision of care. Indeed, in the two appendices that we gave at the end of the submission of written evidence to you, my Lord, we indicated, for example, the primary care initiatives. Now, that will have a large component in terms of nursing when you look at the formation of primary care teams and, indeed, how care is delivered to patients. So there is indirectly as well an amount of work going on which involves actually how care is delivered to patients via nurses as opposed to most certainly the discrete elements that Miss Auld mentioned.

1286. What happens to these nurses who do this special research training to which you referred when they have completed that training? Where do they go?

(Miss Auld) We have followed these nursing research training fellowships up and I have a list of exactly where they do go. Many are still actually involved in research projects. Some have become nurse educators and have moved into university nursing departments and colleges of nursing and midwifery as professors and teachers. Some have moved up the nursing management hierarchy and are heading up nursing teams as nursing service directors. Two have moved into my own department and some we have been unable to trace—they have moved abroad—but again I can send a note of exactly where all these fellowship people are.

1287. What I was really interested to know was the degree to which it proves an attractive base for a subsequent career?

(Miss Auld) Not all of them remain in research per se. Nevertheless, I think the fact that they have undertaken such a training means that they are looking for research opportunities for others in practice.

Baroness Lockwood

1288. What does fellowship equate to and does it give any recognised academic qualifications?

(Miss Auld) It is a full-time two-year training fellowship and the purpose of it is to train nurses in research methodology, research understanding, but most of the candidates who undertake the training actually go forward with a research project which they present and for a master's degree, and some will get a third year of funding if it is considered to be of sufficient merit to present for a doctoral thesis. We have a number who have actually graduated with a doctoral thesis and the vast majority are masters.

Lord Erroll of Hale

1289. Why should it only be nurses who do nursing research? I am sure they are very good, but would one not benefit possibly from having other trained minds brought to the research problems?

(Miss Auld) Yes, my Lord. I think in the past a lot of our nursing research was done by others than nurses and most of the research in nursing was on nurses. It was on the structure and it was on relationships rather than the practice of nursing. In later years it has been thought that we really ought to be looking at the practice of nursing so that we can influence patient care rather more and so we have looked to nurses rather more. But we involve others certainly. Social scientists are involved in some of the research projects, economists in other research projects—so it is not only nurses.

Baroness Lockwood

1290. But just as within the medical research for doctors the research is an element in their career structure, would the same apply to nursing? Is it the intention that, if you can build in an opportunity for research, then this is going to enhance the career opportunities and promotion opportunities of nursing, perhaps not necessarily just in nursing but in the whole of the Health Service structure?

[Baroness Lockwood *Contd*]

(Miss Auld) This is a rather more complex problem for nursing in that the vast majority of our nurses are not in the university education system.

1291. But it is suggested they might be in future?

(Miss Auld) I think a greater increase in the provision of graduate studies is mooted but it has not been suggested that they will move into university education in total. But the opportunity for graduate studies it is thought will increase. At the moment nurses will leave their post to undertake a nursing research training fellowship or to undertake research for which they have sought funding. But then usually they return to their post in the service. We have not as yet seen a separate career structure except for some nurses who are working in the Nursing Research Unit. Certainly the opportunity to undertake research does appear to enhance the career of nurses.

Chairman

1292. I think it would be useful to have some further information on the work that is being done in this field. It is an area which interests the Committee. Lady McFarlane, who is not here, is particularly interested of course, but the Committee are wondering whether as much is being done in the nursing field as might be and would be very interested to know a bit more about your work.

(Dr Macdonald) May we undertake to provide you with a note on that?

Chairman] Please.

Baroness Warnock

1293. May I ask a historical question really? Is it possible to point to any changes in your own policy which were quite manifestly based on research, either your own research or joint funded research with the ESRC or with the universities? I know that there has been great interest in Scotland in the effects of health education and this was an ESRC joint funded project, as I remember. Has that led to a shift in policy or are there any other very broad areas where you could say research of the operational kind we have been talking about has been effective?

(Dr Macdonald) My Lord Chairman, if I may attempt to answer that by saying that an overall health policy really is of comparatively recent origin. It dates from about the late 1970s, when we published guidance—fairly short guidance—in Scotland, entitled "The Way Ahead" and amplified that in rather more detail after a good deal of work in a policy document in 1980, known as SHAPE: "Scottish Health Priorities for the Eighties". Interestingly, these were the first occasions—a little surprisingly—when we applied our minds to an overall health policy, and I think it would be fair to say that that change was informed and brought about by a good deal of the research work which had by then taken place on things like prevention and on things like the balance of care between hospital and community services. Having laid down the general policy, I think it would be difficult to put a finger on one precise thing and say that that was exactly what brought it about, but there were a range of things. The detailed implementation of the policy is then up to health boards, who have available to them a great deal of background information. Some of it is essentially of a research character; some of it is more in the nature of recommendations from committees which were brought together in the mid to late Seventies. We have a series of reports on things like care of the elderly, care of the mentally ill, care of the mentally handicapped. So I think it would be quite fair to say that from about the middle Seventies onwards policy has been shaped to a large extent by taking research into account.

Chairman] That is very interesting.

Baroness Lockwood

1294. Have you shifted your priorities? Have you had any means of assessing its successes? You said you *thought*, but has there been any systematic assessment of the changes?

(Dr Macdonald) Yes indeed. We are taking a fairly systematic review of the changes to try to ascertain just what is happening. There has been a shift in resources in the direction intended towards greater care in the community, towards long-stay care in the hospital services, towards prevention. I think we have become aware, of course, that there is considerable pressure on the acute services, and having given, quite rightly, emphasis to the need for longer term care and care in the community, what we now find is that there is very great pressure on the acute services, coming in fact from the elderly, but yes, in answer to the question, we are looking, and we are certainly finding that there is some shift.

Lord Perry of Walton

1295. I have really a similar sort of question. I would like to refer to Appendix A, which is the report of the Chief Scientist. The third paragraph begins: "The remit of the CSO is to stimulate, encourage, promote and support good quality research of relevance to the improvement of the NHS in Scotland." When I look at the list of topics just above that, namely, the management of mental illness and of senile dementia, they all fall into what I would call health services research rather than into any of the other major branches. The total budget, I understand, is around £4 million. There used to be the Scottish Hospitals Endowment Research Trust when I was a boy. I wondered whether that was incorporated within the £4 million. If not, how is it spent? What money goes to the area of biomedical research, because very little seems to at the moment? I do not object to the change in looking at the management; I think it is terribly important, but if it is done at the total neglect of the rest of the area, I would be slightly upset.

(Dr Macdonald) I think we can demonstrate we

[Lord Perry of Walton *Contd*]

are not neglecting the rest of the area. Perhaps I could ask the Chief Scientist to deal with this one.

(Professor Weir) The funds available through SHERT are not included here. They are variable.

(Dr Moir) About £0.5 to £0.8 million a year, but it is variable—£500,000, £800,000 a year.

(Professor Weir) Therefore the amount from the Chief Scientist is in the order of £4 million, and slightly over 50 per cent goes on health services research, slightly less on biomedical research, so it would be just over £2 million going on health services research and a bit less on biomedical research.

1296. Sorry—under which of these areas does the latter go? Are these areas not excluded? There are other areas in addition?

(Professor Weir) These are the priorities.

(Dr Moir) These apply right across the field. The response could either come up as a biomedical response, clinical response or as a health services-related project. A biomedical and clinical project in relation to mental handicap would on policy grounds have very high priority.

Lord Kearton

1297. What is the total National Health Service spending in Scotland—£2 billion?

(Miss Cox) It is a little over £2 billion.

1298. The £4 million is really a tiny fraction of one per cent of the total spending. Is £4 million about right or would you like to see it much more?

(Miss Cox) I think on the question of comparison with the total budget, which in the current year is £2,201 million.

1299. Yes, it is slightly higher than the UK proportion.

(Miss Cox) It is for a number of reasons, including the greater support, for instance, to medical education, since we educate more undergraduates in medicine in Scotland, but we feel that the comparison is not just between our £4 million and the total, but with the total amount spent on medical research in Scotland.

1300. What figure is that?

(Miss Cox) Well, we are not fully acquainted with how much the Medical Research Council, the universities and others——

1301. Roughly.

(Miss Cox) Very roughly we think it must amount to between two and three per cent of the total amount spent on the NHS in Scotland, if you take into account bodies like the Scottish Hospital Endowments Research Trust.

1302. That is £40 to £60 million approximately.

(Miss Cox) We think so.

1303. A lot of the money you are talking about is for fundamental, basic research really. A great deal of what the Chief Scientist is spending is how to improve the results of what you are spending. Is that a right proportion, or would the Chief Scientist like more?

(Professor Weir) It is always possible to spend more!

1304. Usefully more?

(Professor Weir) That is the point I was coming to. I do not think we have yet the mechanisms for appropriate implementation to then argue that we could usefully spend more. Clearly there is always a marginal improvement that could occur. The activity now, I think, has to centre on getting better ways of implementing the work that is currently being done. Then I think a much more powerful argument can be made for devoting more of the resource to that area and that certainly is——

1305. I was interested in Baroness Warnock's question. What I want to be clear about is what you would claim were, as it were, great successes. She asked the question, I do not think she got a precise answer.

(Professor Weir) I would have thought the greatest success has been the awareness—and I think one can claim this—within Scotland of the implications of cost and effectiveness, of the need to introduce changes and, indeed, the need to monitor the changes that are occurring. Quite clearly the growth that has been occurring in the services that the Chief Medical Officer has referred to are being fed back to the boards and we are certainly making it clear to them the extent to which resources are being spent in these particular areas. I think there is also general agreement amongst the profession that indeed it is appropriate that there should be this change in emphasis. I would have thought that has arisen in large measure from the work that has been related to the activities of the Chief Scientist Office, particularly in the Health Service Research area.

1306. In item b, misuse of alcohol and drugs, a lot has been published in the last year or two, and in the last few weeks on the misuse of alcohol, and there is an enormous problem in Scotland which adds to the cost of running the Health Service. Is that an opinion to which you subscribe?

(Professor Weir) It is certainly a problem, and one we are attempting to address.

Lord Rea

1307. You said earlier that one of the problems of implementing Health Service research is when it comes to implementing research into preventive medicine or health promotion, you run into difficulties because there are other departments who have to move such as social services, local authorities and maybe education departments—they may be part of local authorities, but anyhow other layers of government which are not directly under your control. Do you think that it is a disincentive to go on doing Health Service research because so much

[Lord Rea *Contd*]

of it comes up against such obstacles? Do you think Scotland is any better at overcoming obstacles than we are?

(Professor Weir) I certainly think it is frustrating. I do not think it is a disincentive. Clearly, having recognised these particular problems, we are now trying to work towards resolving them. One of the important points is actually to involve the health care professions and the managers in the health boards when new major projects are being undertaken so that they are aware of what is going on and have a greater input to the work that is being done. I am reasonably optimistic that we can make progress in this area and actually get more things done within the Service itself. In other areas where in terms of, for example, the moves to the community and so on we are active in discussions with the Social Work Services Group, we are getting more liaison between the health boards and the local authorities. So I am hoping these can be, as it were, taken on board as well. We are aware now of the difficulties in trying to produce mechanisms that will solve them. These do not relate to research—they are outwith that in terms of policy and that is why the interchange between these activities is so important.

(Dr Macdonald) Possibly Miss Cox would want to say something about the arrangements as between the Health Service and in particular the social work service.

(Miss Cox) I think a recent example of how we try to tackle this problem might perhaps be that within the Scottish Home and Health Department we have our own health economist who in association with the CSO financed Health Economics Research Unit has begun running seminars in the Department to which policy makers in the Scottish Home and Health Department, in the Social Work Services Group (which is part of the Scottish Education Department which deals with local authority social work services) and people from health boards and local authorities are invited to come. For instance, the last one was about breast cancer screening services and the one before that was about how one assesses the balance of advantage in making different forms of provision for the elderly in the community. So we are trying, and I think Scotland does give us an advantage in that we can quite easily run seminars which will bring together people from local authority services and from hospital boards and from the central departments to discuss policy issues informed by research.

Chairman

1308. One of the things you mention in your report is that you do a certain amount of research into the effectiveness of equipment. I wonder if you could tell us a little bit about that. Also, do you have a regular programme of equipment replacement?

(Dr Macdonald) Could I refer that question to Dr Moir?

(Dr Moir) My Lord, there are really three areas within a general equipment area. One relates specifically to equipment related to the disabled. That area has a range of projects which are very often technologically led for the most part. The programme of research support will tend to carry them through the research element into an initial evaluation of prototype. As that stage we usually make some judgement about whether there is some sort of commercial potential at which stage we will either encourage researchers to find their own partnerships in a commercial enterprise or else we may seek assistance from the Scottish Development Agency which has a specific interest in trying, if at all possible, to found that industrial development on a Scottish base.

1309. Has that been successful? ACARD produced a very adverse report on medical equipment development.

(Dr Moir) I think the answer is that it is variable. We are building up—and I have been giving increasing attention to—a portfolio of successful case law. It is certainly not the sort of thing you can very easily facilitate by way of general guidelines of the way to do it. I think, however, you can, if you look across a broad enough range of the 30 or so projects which we have in stream, see common favourable types of characteristics.

1310. Coming to the other question, do you keep an inventory of your equipment and do you have a regular replacement policy?

(Dr Moir) No, my Lord, but there is a bit of the research organisation which has a bearing on your question. This is a section of work which deals with equipment evaluation. While the Chief Scientist Office is involved in setting up the policy that governs that area, the choice of projects is carried out from within the Supplies Division of the Common Services Agency which is the body that advises all the Health Boards on the purchase of equipment.

1311. Throughout the United Kingdom?

(Dr Moir) No, my Lord, throughout Scotland. So we provide the input and general guidance into what is already a centralised National Health source and their locus is to provide the detailed evaluation of equipment. The priority that they are being directed towards and progressively starting to move towards is to make their evaluations in areas where there are likely to be the most major economic benefits. There is still a tendency for this Advisory Panel to want to evaluate a big piece of equipment but that may not be the area where the major economic savings are. The Panel are moving, I am pleased to say, largely into the areas where we wish them to make the evaluations. The advantage of the placement of this type of research in the context of the National Health Service is that we do find there is not a gap—one that Professor Weir referred to in another context—in terms of the dissemination of the results. The evaluations are being divided in association with those who are involved in guidance to the Health Boards on purchasing equipment. That has been quite useful.

Lord Kearton

1312. Can I pursue that? Equipment for the disabled: is there a central way in which all the work going on up and down the UK is assessed?

(Dr Moir) This is one of the areas on which in fact we commissioned a report which is at an early draft stage. You are quite correct; it is one of the things that the committee have considered recently. There is difficulty with the sources of information and the question of whether the right people have the right levels of information. We have actually one or two funded projects on that specific type of topic.

1313. I am asking because I saw a report a while ago of something very grandly called "the Bath Institute of Medical Engineering", a tiny outfit voluntarily funded, and that struck me as having produced extremely simple but useful aids and gadgets to help the disabled, which have been adopted in the general hospital at Bath but there is no evidence of anyone else doing anything about it. I wondered what the dissemination process is.

(Dr Moir) I think the truth is that there are a lot of different sources; there are even a lot of different networks, but the interlinking of these and the full utility of what is available is not linked up. It is part of the problem to which Professor Weir referred.

1314. A lot of the gadgets are not enormously high-tech or expensive, and they make an enormous difference to the general ease of living for disabled people.

(Dr Moir) Yes.

Baroness Lockwood

1315. Is your work just in Scotland or do you network with the rest of the UK?

(Dr Moir) Yes. We indeed have within the Committee itself a very useful and productive adviser from DHSS, who works as part of the Committee, and indeed, we quite often have somebody who comes from Northern Ireland. The secretariat of the Committee, that is people within the Chief Scientist Office, also link with people in the supplies side of the DHSS and people within the Supplies Division of the Common Services Agency also link with people related to the supplies area of DHSS. Indeed, that is essential. Because of its Procurement Executive role quite a number of the equipment assessments are carried out on a UK basis by DHSS. That is not a field where it would be at all sensible to try and go it alone.

Chairman

1316. Dr Macdonald, we are running out of time, I am afraid. We have gone on a long time. I would like to ask one last question. When you are supporting research contracts through the Department, what is your policy regarding granting or refusing permission to publish?

(Dr Macdonald) We do make it a routine practice to require that a grant-holder will inform the Department of any intended publication of any work containing the results of the project at the same time as it is presented for publication. We understand the position to be that all the rights in the results of the project, including any copyright, do belong to the Secretary of State, so there is an implication in that of rights for publication. Our practice has been, as I said, to require grant-holders to submit publications. We do from time to time comment on these. We may make suggestions about presentation if we think they are perhaps inadequately or unfairly presented, and that I think is about the extent so far of our practice.

(Dr Moir) We have rather more than a page, sir, in our terms and conditions of grants, so it would perhaps be best to give you a note on that item, but it is an area which I think we will be reviewing again in the near future.

1317. But by and large your policy is to have freedom of publication?

(Dr Moir) Subject to the right to have a look at it first.

(Dr Macdonald) That has indeed been our policy by and large. There are occasions when we feel that advice on the presentation might be helpful, if it does not seem adequate.

Lord Perry of Walton

1318. My last question was related to this one. Do you really think that there is a disadvantage in that all research into the National Health Service is being done by people employed by it, and would there be a case for having some independent work going on which could criticise the actual management and administration and structure of the Health Service from outside?

(Dr Macdonald) I think, my Lord Chairman, if I may begin to answer that, perhaps the Chief Scientist would want to add to it. I do not think it is entirely correct to say it is carried out by people employed in the National Health Service. Much of it is carried out by people in university appointments, who would, I am sure, argue vigorously that they were approaching it from an independent standpoint.

(Professor Weir) In terms of the Chief Scientist's budget for both biomedical research and health services research, we could certainly quote the actual figure for you, but I would have thought it would be about fifty-fifty.

Chairman

1319. We have covered the ground pretty fully. Are there any points which you would like to make before we close this session, Dr Macdonald? Are there any points you think we have not covered?

(Dr Macdonald) I do not myself think so, my Lord Chairman. Perhaps I could ask my colleagues. No. I think we would only want to thank you for receiving us and being so courteous to us.

Chairman] Thank you again for your very helpful paper and for your patience in answering our questions. It has been most useful to us.

Examination of witness

Professor GEORGE TEELING-SMITH, Office of Health Economics, called in and examined.

Chairman

1320. Professor Teeling-Smith, welcome and thank you for coming this afternoon. We are glad to have the opportunity of talking to you. Members of the Committee are all named round the table. I am sure you know our professional advisers already. May I ask you perhaps to explain to us what and where and why the Office of Health Economics exists?

A. Certainly, sir. The Office of Health Economics was set up 25 years ago by the pharmaceutical manufacturers of this country with the idea of having an independent organisation, although one almost entirely funded by the pharmaceutical manufacturers, to look broadly at health economics, that is, the costs and benefits of medical care, clearly with reference to pharmaceutical activities. It was not a totally altruistic action on their part; they are obviously particularly concerned about the economics of pharmaceutical innovation and the use and benefits of medicines. I myself am a pharmacist, having started in life as a mathematician and scientist. I have been Director of the Office of Health Economics since it was set up in 1962, and have been working in close association with Brunel University, where they now have a small but very active Department of Health Economics, since 1980.

1321. And you are based where?

A. I am based in Whitehall for four days a week in the offices of the Association for the British Pharmaceutical Industry, with whom I obviously work closely. The other day I spend out at Brunel University at Uxbridge.

1322. Do you have a staff of your own or do you draw on the staff of the member firms from the industry?

A. No. We have a professional staff of seven in the Office of Health Economics and the unit at Brunel, the Health Economics Unit, is of the same size, also seven professional research workers working in health economics there, so I have altogether, split between the two locations, a team of fourteen people with whom I work professionally.

1323. Your terms of reference, health economics, is something which is of considerable interest to us. In fact, many of us are wondering whether enough research is done into the subject of health economics, bearing in mind the size of the service and the enormous sums of money involved. Perhaps you could give us your opinion on that.

A. My Lord, I would say first of all that health economics is one of the vastest growth industries in the Health Service. In 1962 when it started there were two or three professional health economists working in the academic field and our own office was set up in that year. There were no health economists at all in the Department of Health or the Ministry of Health, as it was then.

1324. That in itself is rather surprising.

A. Quite remarkable. I think we slightly put them to shame and they very quickly recruited economic advice in the Department.

Lord Adrian

1325. What would you consider in those 25 years to be your greatest triumph—not yours personally, but the greatest triumph of health economics in effect rather than just the fact that you are there now?

A. First of all that we have now some hard measures starting in the earlier days with measures of inputs. We simply did not know, in the 1950s, that we were spending a steadily decreasing proportion of gross national product on health care. The conventional wisdom was that we were overspending. We were able to put that misconception right from the start. More recently we have been very much concerned with measuring the benefits. A number of the preparatory questions which you gave to me in anticipation of my having the privilege of giving evidence to you were concerned with the measurement of benefits which is still a very rudimentary science but which nevertheless is being attempted by the hundred or so health economists in this country now working in association with the Health Service.

1326. But could you say where your work has actually changed the direction of Health Service practice in any major aspect?

A. The most remarkable claim which I think I would make is that we had a major contribution as economists in stopping what I thought, and many people thought, was the nonsense of the doubling of the size of district general hospitals which was a serious proposition in the 1970s. The Bonham-Carter Report recommended that the standard size of district general hospitals should be increased from 800 or 1000 beds to 2000 beds for reasons which we regarded as being completely specious, and we argued for flexibility in the size of hospitals rather than standard monoliths of quite disproportionate size.

Chairman

1327. In doing that—it is a rather interesting point—I presume you showed there must have been a fallacy in the previous assessment of the need?

A. The argument on which it was based was that there must be at least two specialists employed in a district general hospital for even the smallest of specialities and the illogicality of that argument to me was self-evident.

[Chairman *Contd*]

1328. Not necessary or practical?

A. Not necessary or practical. It meant people in Exeter and Cornwall perhaps having to travel 150 miles to their district general hospital, and even in the conurbations the diseconomies of scale which were becoming evident—particularly from economic work in the United States—suggested that there a 2000 bed hospital was quite unmanageable.

1329. You told us that this is a very fast-growing section of the industry, but is it growing fast enough? The impression we have had, some of us, from the evidence put before us is that not enough has been done related to the size of the service and the sums of money involved, even now with all your growth.

A. That is certainly a very common impression. There is a major shortage of manpower amongst the mediumly qualified health economists. There is a small and steady output of young health economists but for people with ten years or more experience in the field, because of the slow take-off of the speciality, there is a grave shortage of people with, say, ten years experience in health economics. So it is difficult for it to expand faster. I would certainly like to see it expanding faster, but that is special pleading on my part.

1330. Is there an adequate availability of funds to support more people for Health Service use?

A. It is difficult to get funding and one of the points I would like to make at some stage during this presentation is that we are very heavily dependent on short-term contract funding.

1331. Do develop that theme now.

A. There are very few tenured posts for health economists. At Brunel, for example, amongst seven health economists we have not got a single tenured post. The longest contract we have is three years. This means that the individual is happy for the first year but he is inevitably looking over his shoulder in the second and third years as to where his funds are going to come from in year no. 4.

1332. Where would he look for such funding?

A. He is looking for funding from all the sources that are available for medical research funding in general, apart, I think, from the MRC who as far as I know do not fund specific health economics posts.

1333. Where else would it come from? Nobody else has funds for it either.

A. The Department of Health in recent years have been extremely farsighted in funding health economics work. Unfortunately the cutback that they are experiencing is hitting particularly hard. We have a project at the moment in Brunel University on project evaluation which we would very much like to go ahead with, and we have been waiting for several months for the Department of Health to make up their minds as to whether to fund this or not. This is really because they are looking very critically at all their budgeting.

1334. Have you a figure in mind that the Department spend on Health Service concerns?

A. I have not, I am afraid.

Baroness Lockwood

1335. Do the charities fund this work?

A. The charities fund very little of it. Almost all of them are restricted to pure medical research. The Health Promotion Trust is a notable exception. They have funded extremely good work in health services research and health economics.

1336. So this would mean that it is largely industry, and the pharmaceutical industry?

A. The pharmaceutical industry. Of the seven posts at Brunel the pharmaceutical industry, through the Office of Health Economics, is funding two and a half of those posts, and the other four and a half are funded through the DHSS.

1337. Would you regard it as satisfactory that you rely to such an extent on the pharmaceutical industry?

A. I am not altogether unhappy about it. I think that they have a strong self-interest in the measurement of benefit. That is one of the reasons that I personally am so fascinated by the subject of measuring the benefit of outcome of medicine, in the singular, and medicines, in particular in the plural. I do believe this is an area where the pharmaceutical manufacturers are taking an increasing interest, quite a number of them. There are two companies at the moment advertising posts in this country for health economists to look at the evaluation of the outcome of their treatments.

Baroness Warnock

1338. Have ESRC any projects or joint funded projects?

A. Certainly, yes, not only the DHSS. The ESRC have indeed funded projects.

1339. Direct with you?

A. Certainly with York University. They fund six studentships each year. So the DHSS and ESRC between them are making a substantial contribution. But, of course, the point you are making is absolutely right: in a service costing £20 billion a year we are spending incredibly little on looking at the effectiveness of that service and the efficiency with which the resources are being used.

1340. We have just heard, as you already know, from the Scottish Home and Health Department, and they left us with the impression that they are very aware of the benefits to be gained of research into this area. They could be regarded as a regional organisation in a way. Therefore, one asks the question, should not Health Service research be initiated and funded by the regional authorities rather than by central departments?

A. Yes, and to some extent it has been, although again it has been one of the victims of shortages of funding. For example, the unit at Canterbury,

[Baroness Warnock *Contd*]

which I visited at the end of last week, was a regionally funded unit, but I understand that the Region has withdrawn at least part of their funding from that unit. Regions are aware of this. Regions have been doing some work in this area, and individual districts have appointed health economists—not always with great success.

1341. Would it be logical to say that there would be great sense in a regional authority associating itself with a health service department in the universities, or a university?
A. Yes.

1342. And having a close working relationship between the two?
A. We do have precisely this arrangement at Brunel University, where a lot of the funding I am talking about is coming from the Department, but a lot comes from the regions for what is called project appraisal.

1343. And that works well?
A. That works well, but again, is on a limited basis because of the shortage of funds at Region, and this tends to be a low priority in looking at their budgets.

Lord Kearton

1344. Are your people completely free to publish?
A. Yes.

1345. You mentioned earlier on that one of the early results back in 1962 was that we were under-spending in the National Health Service in the sense of not going up in the proportion of GNP. In America we found health service research, which is federally funded, got cut back sharply because some of the pharmaceutical interests were not keen on the results being published—or we had that impression. The other thing that comes up in the same context is spending on health in that America is more than twice as much per head, even allowing for distortions with the value of money, than this country. Does that mean we are under-funding and they are over-funding, in your view?
A. I believe the Americans are over-funding in certain areas. A classic example is in coronary arterial by-pass grafting, where they do seven times as much as we do. Our view in this country is that we should be doing three times as much as we are, so there is some over-funding there in America. On the other hand, I personally believe that the 12 per cent of Gross Domestic Product which the Americans are spending on health is not necessarily too much. In addition to their over-funding, they have very substantial under-funding, as I am sure you are well aware. There are 30 million people in the United States without health insurance, who are dependent entirely on charity or bankruptcy.

Chairman

1346. How do you explain the difference? They spend 12 per cent and we spend 6 per cent, and yet the statistics do not show that they have any better health records than we do, yet we say we do not do enough.
A. In small areas they have achieved success. For example, they have reduced their level of coronary heart disease from being substantially above the British level to being well below the British level, so they have areas of success. You may well say that this is largely health promotion rather than medical intervention, but partly it is medical intervention, certainly, and the problem from the overall statistics is the one that I tried to hint at a moment ago, which is that they have areas of gross over-provision which may even be damaging, and other areas of gross under-provision, which are quite certainly damaging.

Baroness Lockwood

1347. How do you organise your two teams? Do some of them specialise on particular aspects of the Health Service, and do you quantify purely on economic terms, or do you also look at success in improving, shall we say, the quality of life?
A. Absolutely. We are quite fascinated by the subject of measurement of quality of life at the moment, and that is my own personal particular interest, and we have at least two of the team at Brunel working full-time on that area. The two teams operate fairly separately. The Brunel team is largely under the control of Martin Buxton, who is the Director of the team there, and although I work closely with him (I see him every week) he really controls the individual work at Brunel and is responsible for the fund-raising for it, apart from the grants which we give him. In the Office of Health Economics our pattern has been to take disease by disease and area of the Health Service by area—I mentioned hospital building, for example—to look in very small studies at particular items of the Health Service and to publish between six and ten little projects each year, looking at very specific subjects in some depth, not only from an economic point of view but also from a scientific and epidemiological point of view, to give as clear a picture as possible of what is happening in that little, narrow area.

Lord Kearton

1348. Do you ever get a chance to discuss your findings with the senior scientific people at the DHSS?
A. Yes indeed. Although we always know the Chief Scientist, our principal contact, of course, is with the Economic Adviser's Office, where we work very closely with them.

1349. This includes face-to-face discussions?
A. Yes. Their Senior Economic Adviser on the National Health Service side, Jeremy Hurst, has written for us and has taken part in our meetings, and I frequently talk to him on the telephone and visit him in his office.

[Lord Kearton *Contd*]

1350. This may be an unfair question, but do you think the health economists in the DHSS have sufficient influence?

A. I honestly cannot say. They are very discreet! I really do not know how much ministers take note of what happens in the Economics Adviser's Office.

Chairman

1351. There is a problem there, is there not? We have seen that in the examination we have made in the United States, that while in theory everybody likes the idea of investigation into health economics, they do not like themselves being investigated very much, and it creates quite a lot of opposition, because nobody wants to be shown up as being inefficient, whether it be a surgeon or hospital or a health authority, and I suppose inevitably there must be opposition from some quarters to this type of research. Do you find that in your work?

A. I have never personally found it, but I know that my colleagues at York University have found it, where they have looked at particular areas. The moment they have started to look in depth, the clinicians have shut up like clams and said, "We would not like you to go any further." Our experience at Brunel has in fact not been that at all. The project for which Brunel University is best known is the evaluation of the heart transplant programme, where Martin Buxton and his colleague, Bernie O'Brien, obtained excellent co-operation from the clinicians at Harefield and Papworth Hospitals. Even though, for example, the economic differences between the performance of the two hospitals were inevitably invidious, this did not in any way dampen the enthusiasm of the clinicians to co-operate.

1352. We understand in the States the insurance companies, who of course pay for a lot of the medical treatment, are getting into this subject and finding wide differences between costs which they cover between treatment in one place and in another. Are you aware of what they are doing largely?

A. I am vaguely aware of it, but I am also of course very aware of similar studies in this country undertaken by medical departments. For example, the Department of General Practice at Manchester has caused some resentment amongst their practising colleagues by pointing to the enormous differences in referral rates between different practices in the extent to which they use the hospital out-patient services. I think a 25-fold variation is totally unexplained by clinical or population differences. So these are the sorts of area which are being illuminated by not necessarily professional economists but often by doctors who have taken on board the principles of economics in application to their own work. This is a very encouraging trend.

Lord Rea

1353. To go back to the influence that health economists might have in health departments both at the DHSS and in the regions, do the new managers take advice from economists and would you advise them to do more of it? Is there a place for more health economists throughout the Health Service in the administration as well as in research?

A. Yes, I believe there is. There are major problems in taking the advice. Frequently, a general manager may be aware of the inefficiency in his own unit, but he may feel impotent to do anything about it because of the principle of clinical freedom within the National Health Service: so, though he can see inefficiency and see it more brightly illuminated by a health economist, he nevertheless is somewhat impotent to tackle the inefficiencies which are brought to light.

1354. But do you think appreciation of economic aspects among the caring professions, particularly the medical profession, is actually improving and increasing?

A. Yes, very much so. There is no doubt that amongst the newer health and medical schools in particular, such as Cambridge, Southampton, Nottingham, the principles of health economics are being taught to the students, albeit to a very limited extent; nevertheless they are being made aware of the fact that they cannot do everything for everybody regardless of cost.

1355. So research findings which have a health economics basis would be more acceptable to this generation of doctors if trained in those places?

A. Very much more so.

Lord Erroll of Hale

1356. Preventive medicine: would this be a field that you might look at or perhaps you have looked at it. If I could summarise, it has only really started in this country about twenty years ago. Some are enthusiastic about it—I am one of those—but it has many critics who say it just costs a lot of money and does not produce very much: you are told one day your heart is all right and you drop dead on the golf course the next day. You have probably heard these criticisms that it is a sizeable drain on medical resources of one sort and another carrying out these screening tests etc., etc. Would you say that this would be a field where your organisation could make a useful examination or is that something that perhaps the DHSS should do? I understand they are hostile to this conception of preventive medicine because it might encourage a lot of people to become nervous about their own health and put further strain on the services. Would you like to comment on that?

A. Yes, my Lord. Preventive medicine obviously covers a wide field, and health education is, I think, effective and very useful. What the Americans used to call multiphasic screening, the sort of thing BUPA carry out for a fee, for example——

1357. I have that particularly in mind.

A. We did, in fact, make another of our major contributions about twenty years ago in this area

[Lord Erroll of Hale *Contd*]

where the enthusiasm was running away with itself for so-called health weeks. There was, for example, a medical officer of health in the north of England—Rotherham I think—who ran great regular health weeks, attracting people from as far afield as Glasgow and almost London to get a quick check-up. The Americans at that time, the Kaiser Permanente Health Maintenance Organisation, were all running multiphasic screening and were full of enthusiasm for this. We did a series of nine studies, taken again disease by disease, indicating really that the evidence in favour of multiphasic screeing was very limited indeed. For certain things—phenylketonurea in infants, screening for bacterial urea during pregnancy—it was certainly worthwhile, but for the average run of these sorts of biochemical and physical tests it was not, for the reasons you have implied. That is, you check the person's heart, it seems perfectly well and he drops dead the next day. That is not just anecdotal, there is epidemiological evidence to support that. Screening is a great deal less effective than was thought. We helped the Department of Health to stem the tide at that time for random checks. Our philosophy is that health preventive medicine should be very much the responsibility of the primary care doctor, the general practitioner, who should take patients' blood pressure, for example, when he sees them and has the opportunity to do so, and should obviously do cervical testing of women in the at risk groups, but the setting up of the BUPA type screening programme under the National Health Service would be totally uneconomic and, as I say, this is not just a hunch, this is based on some very careful evaluation some years ago, and I do not think the situation has changed since.

Chairman

1358. Could I direct a question for a moment to the pharmaceutical industry, your sponsors? In what way do you feel the present methods of financing research into drugs could be better co-ordinated with other forms of research in the Health Service?

A. I believe there could be much better co-operation between the Medical Research Council in particular and the pharmaceutical industry. This has improved a lot. In recent years the Medical Research Council have greatly improved their enthusiasm for target-oriented and goal-oriented research of pharmaceutical companies.

1359. It is quite a change.

A. It is quite a change.

1360. The fundamental difference is that the drugs industry is goal-oriented whereas the MRC is not.

A. As far as the National Health Service research is concerned, that is, the research departments within hospitals, these are frequently funded by the pharmaceutical industry. There have been two examples recently of Upjohn & Squibb funding research in this country within academic units within the hospital setting. There is already good co-operation but anything which could be done to improve it would certainly be welcome.

1361. What about the question of the burden of costs when testing new drugs as between that which falls to the drug company and that which falls on the National Health Service?

A. This is an area which is under consideration at the moment, largely from the pharmaceutical manufacturers point of view, because they feel that sometimes they are contributing more than their fair share, more to individual consultants than to the Health Service as such, but it obviously spills over into the Health Service in that free medical supplies are available for Health Service patients etc. But——

1362. Is that between the industry and the National Health Service or is it between the individual companies and individual consultants?

A. Individual companies and individual scientists and this is a matter really that I understand the National Health Service are looking at, as to whether or not individual consultants are using National Health Service resources in respect of their private consultancy work. But the contract certainly essentially has to be between the company and the research worker. It would be, I think——

1363. The apportionment of cost presumably has to be agreed with the health authority?

A. That is a matter for the consultant to agree with the regional health authority.

1364. We were told some of the problems the pharmaceutical industry have in relation to patent rights and the life of patents and so forth. Does the introduction of licences for medicines affect medical research in the United Kingdom, do you think, and the international position of our pharmaceutical industry?

A. Yes. Your Lordships are, I see, debating this very afternoon the Copyright, Design and Patents Bill which contains the clause which will repeal the licence of right provision, and that is very much welcomed. It is not exactly what the pharmaceutical manufacturers want because there are certain time delays built in; it does not operate as quickly as they would have liked, but certainly that particular provision is welcomed. The grant of licences as of right during the last four years of the 20-year patent period will be repealed provided that this Bill goes through to become an Act.

1365. That, you think, is a good move.

A. That is a good move, but there was disappointment in the pharmaceutical industry that the Bill did not contain some specific reference to restoration of patent term. The big problem is that with a medicine in particular, it takes now on average about twelve years from the filing of the patent to the first marketing of the medicine, so that out of the full twenty years, or with a licence of

[Chairman *Contd*]

right within the sixteen years, the company is losing twelve years of its patent life before it ever gets on the market, so it only has another four years, or very shortly eight years, in which to recover its investment expenditure, and this inevitably leads to two adverse side-effects: one is high pricing of innovations in order to try and recoup the research investment in the time available, and secondly, it inevitably has a tendency to stimulate aggressive marketing to try to get doctors to prescribe it as quickly as possible.

1366. But this is no different to what is happening in other countries, is it? The UK is not worse off in this respect, is it?

A. Yes, it is, because our testing procedures are worse. The Americans at one stage were worst of all, but they have——

1367. Not because of the patent rights position but because of the testing period?

A. No, sir; both. They have in fact introduced a restoration of patent term in the United States, which specifically makes up for the period of time that is lost.

1368. When did they introduce that? Do you know?

A. About two years ago, and the Japanese, who are our other main competitors, have legislation in hand also.

1369. So you were hoping that would come in with this Bill.

A. We had hoped there would be some reference to it in the current Bill, but the Government have said that they do not feel it necessary to put that in. The problem is that you need to get a consensus in Europe in order to comply with the European——

1370. It has got to be a European decision?

A. It has to be basically a European decision. That is the stumbling block.

Lord Kearton

1371. Clinical trials: is this something which you work on? Some of the evidence we have had indicates that results of clinical trials can be inconclusive and a series of clinical trials can still be inconclusive, and yet the drug gets introduced. Is this something you are interested in?

A. When you say it is inconclusive, I imagine what you mean is that it is not necessarily better than the available medicines against which it may have been tested. Yes, it is something on which I have strong personal views, which I am sure would be welcomed by my sponsors. I had ten years in the pharmaceutical industry before joining the Office of Health Economics in 1962, and one of the medicines that I was involved with was Paracetamol introduced as Panadol, and all the clinical trials on Panadol showed that it was an inferior analgesic. It was tested against Codeine and had the inconclusive nature of a clinical trial been a barrier to marketing, we would not now have the standard analgesic we have in use, Paracetamol, because it would have been refused out of hand because the clinical trials were inconclusive. Very often at the testing stage you do not know how valuable a medicine is going to be, and if uncertainty is going to be a barrier to marketing, we would be in a very unhappy state.

1372. You are saying the only way is to "suck it and see" if it works on the patient.

A. You have to show it has some degree of effectiveness. It is in my mind quite wrong to have to show that it is on average more effective than the reference medicines against which it is being tested, because it may turn out to be quite extraordinarily valuable in subsequent use.

1373. What if it does not?

A. If it does not, it will fail in the market and be forgotten within five years, and very little is lost.

Chairman

1374. Professor, are there any other points you would like to make to us before we bring this session to a close?

A. No. I would like to thank you for giving me the opportunity of giving evidence to you. I was particularly interested in the emphasis which you put on health economics, which is obviously a subject very close to my heart, and I was delighted to be given the opportunity to answer questions on that.

Chairman] Thank you very much for giving of your time, and we are very glad to have your views. Thank you very much.

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SESSION 1987–88

MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

Thursday 19 November 1987

UNIVERSITY TEACHERS OF GENERAL PRACTICE AND ACADEMIC DEPARTMENTS OF COMMUNITY MEDICINE

Professor [illegible], Professor D L Miller, Professor [illegible], Professor [illegible]

ASSOCIATION OF CLINICAL PROFESSORS OF MEDICINE

Professor C J Dickinson and Professor [illegible]

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HOUSE OF LORDS SESSION 1987–88

MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

Thursday 19 November 1987

ASSOCIATION OF UNIVERSITY TEACHERS OF GENERAL PRACTICE AND HEADS OF THE ACADEMIC DEPARTMENTS OF COMMUNITY MEDICINE

Professor J H Walker, Professor D L Miller, Professor I Leck, Professor J Howie

ASSOCIATION OF CLINICAL PROFESSORS OF MEDICINE

Professor C J Dickinson and Professor J D Swales

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research institutions. They address topics which tend to have popular public and political appeal, and many enjoy the support of specific funding agencies. That work of this type will continue is both essential and inevitable. It must nevertheless be balanced by studies which ensure the effective implementation of its findings within the Health Service, of the effectiveness and efficiency of the service itself, and studies designed to enhance the quality as well as the quantity of life.

At present, higher priority appears to be awarded to the quest for new knowledge rather than to the most effective methods of applying the knowledge we already possess. Appropriate areas for expansion would therefore include the evaluation of new techniques and methodologies through more application of the principles of the controlled clinical trial, studies of the effectiveness and efficiency of existing technologies, problems of the balance of care between hospital and the community with particular reference to primary care, more effective methods of preventing disease, of modifying life-style and of promoting health.

C. Response to Change

Research priorities are clearly capable of reacting rapidly to changes in the incidence of disease (vide AIDS). Slower and more subtle changes however produce less dramatic reaction. Increases in the proportion of the elderly in the population and the complexity of their disorders, the increasing prevalence of behaviourally determined degenerative conditions, increases in the range of phychiatric illness and disturbances of human relationships have been inappropriately reflected in the research field. Our ability to devise and evaluate experimental patterns of care has appeared to be limited, whilst on the other hand, new technologies have been adopted widely without appropriate evaluation. Some, including those in the field of information and communication, have been implemented too slowly, often using research and development as the excuse.

D. Funding

Priorities are clearly influenced by the institutions through which research is funded. As the academic and professional advancement of research workers is so firmly related to publications and as the performance indicators of University Departments are increasingly based on grants received, the temptation to be influenced by the availability of funding rather than the relevance of individual topics is considerable. For this reason, projects with public appeal, commercial potential, or which coincide with the interests of individual charities are unlikely to go unfunded, despite their ranking in any ordering of priorities. Distortion of priority may also occur because a topic may be seen to have political importance or by of high scientific quality.

It could therefore be argued that a balanced national research portfolio requires the investment of public funds in those areas not supported in other ways. Although the Chief Scientist's Organisation, The Research Liaison Groups and the Small Grants Committee of the DHSS have all been helpful in this respect, their current funding is such that this has not yet been achieved.

E. Dissemination

The results of important research findings in the biomedical field are in general adequately disseminated and when of appropriate quality and clinical relevance, lead to improvements in the provision of patient care.

F. Duplication

There is probably a minimum of unnecessary duplication. As funds become scarcer, consultation between charitable bodies, the advisers to the major research councils, advice from the DHSS, and personal and professional communication between research workers diminishes the probability further.

G. Implementation

Although many of the fruits of clinical research do lead to improvements in patient care, a major problem of operational studies of the health service is that their findings have implications of the behaviour of patients, doctors, and staff in all branches of the service. Traditional patterns of work may be challenged, longstanding relationships threatened, and whole philosophies of care scrutinised. A critical research priority is therefore the study of the effective implementation of change.

In the field of health education and preventive medicine, the problems are even more difficult, for when findings conflict with the vested interests of, for example, tabacco manufacturers, brewers and distillers, food producers and others in commerce, dissemination and implementation are energetically countered in a variety of ways. As legislation may be an inappropriate method of countering this type of health hazard, research must identify more effective methods of transmitting the message and modifying behaviour.

H. Training

In the biomedical sciences, training facilities for medical research workers may be regarded as adequate. The higher training facilities of the Universities, the fellowships of the research councils, the flexible arrangements provided by the grant giving bodies, and the scholarships and fellowships funded by many health authorities provide adequate opportunity.

In hospital clinical disciplines it is expected that the curricula vitae of those applying for senior registrar posts list several publications, the implication being that protected research time will have been found within the registrar grade.

This is not the case in general practice, where research experience is not expected and where research itself is still a minority interest.

Although medical students may be introduced to the fundamentals of research during the undergraduate curriculum, and vocational trainees in general practice may develop a research interest further, no opportunity exists beyond this point which compares with that of the hospital specialist. An urgent necessity is therefore the establishment of research training opportunities for general practitioners, the creation of stronger Departments of General Practice able to provide supervised research experience, and ultimately the development of multidisciplinary primary health care research units.

I. CHANGES IN FUNDING

The proposed balance outlined in earlier sections is unlikely to be achieved without changes in funding policy. While more conventional aspects of medical research are likely to continue to attract funds from a range of grant giving bodies, health services research and research in primary care must continue to be regarded as charges on the public purse.

Both are therefore to be enhanced only through additional public expenditure. The fact that much general practice research requires the collaboration of colleagues in a range of clinical, epidemiological, social, behavioural and management sciences could be seen as justification for simply a general increase in Health Services Research funding through existing DHSS mechanisms. While this would be welcome, a considerable amount of general practice research is in the clinical or educational fields and does not require this degree of support. The Health Service Research budget may therefore not be entirely appropriate and it has been suggested that the successful establishment of a general practice research programme, and ultimately of a research tradition in the field of primary care will only occur if this branch of medicine has its own research institute or council effective at both national and regional levels. Funding might then recognise the specific research opportunities of general practice and the unique contribution it is able to make.

The Association of Univerity Teachers of General Practice would welcome the opportunity of pursuing any of the points made in this submission by giving oral evidence to the Sub-Committee.

May 1987

Appendix

PRIMARY HEALTH CARE: AN AGENDA FOR DISCUSSION (Cmnd 9771)
RESPONSE OF THE ASSOCIATION OF UNIVERSITY TEACHERS OF GENERAL PRACTICE

1. The Association of University Teachers of General Practice represents those doctors responsible for teaching and developing general practice as an academic discipline in the Medical Schools of the United Kingdom. The Association welcomes the publication of the Agenda for Discussion and supports the broad aims summarised in para 3, Chapter 11.

TEACHING

2. The Association agrees with the Government that quality of health care is determined largely by the standards of the professional people involved (Chapter 8) and believes that these standards are significantly influenced by attitudes developed during early educational experience. The Association therefore wholeheatedly endorses the Government's wish to see an increased emphasis on the role of primary care in the medical curriculum.

3. That such an increase would contribute to the development of all doctors and not just to those destined for a career in general practice, is fully supported by the Association which has argued that 16 of the 20 broad educational aims oultined by the General Medical Council in its Recommendations as to Basic Medical Education require significant contributions from general practice if they are to be achieved satisfactorily.⁽¹⁾

4. Recognition by Government that such contributions vary widely between Medical Schools is therefore welcome, but the Association wishes to stress that this variation is not simply "a matter for the

educational and professional bodies concerned'', but relates increasingly to the unique funding difficulties of University Departments of General Pratice.

RESEARCH AND DEVELOPMENT

5. Although many improvements in the quality of care in general practice have been based upon pragmatism only, research has now established the scientific basis of the discipline. Developments in future must therefore be based upon sound theory, effective experiment and satisfactory evaluation. It does not appear logical to complete discussion on several of the proposals within the Agenda until research information becomes available or experimental implementation has been successfully concluded.

6. Departments of General Practice are currently involved in a wide range of research activity of direct relevance to the Government's objectives: child health surveillance, health promotion, preventive medicine, community care, rational prescribing, hospital referral, clinical audit, the role of nurse practitioners, patient satisfaction, amongst others.

7. Much more could be done but the limits on research and experiment are essentially those of staff time and facility. In the majority of academic departments, clinical care and teaching responsibilities are required to take precedence. If research and development are to be successful, a ''critical academic mass'' with time and resource must be achieved.

SERVICE SUPPORT

8. University Departments of General Practice are unique in that unlike departments in every other academic clinical discipline, they receive neither direct not indirect support from the Secretaries of State for Health for the services they provide.

9. The absence of such support has produced a variety of problems, fully documented in the recently published Mackenzie Report.(2) In summary they include:

(a) Variation in size and structure of departments.

(b) Insecure ad hoc funding, often on a short term basis.

(c) Excess reliance on earnings from patient care.

(d) Disproportionate teaching responsibilities with dependence on part-time honorary teachers.

(e) Paucity of research time, training and opportunity for junior staff.

(f) Absence of a satisfactory career structure.

10. The Association is therefore seeking a method of support analogous to that enjoyed by the hospital based specialities, where the informal funding partnership between UGC and NHS enables clinical academic staff to fulfil their complex and interdependent responsibilities of service, teaching, development and research.

IN CONCLUSION

11. In welcoming the Government's ambitions for the contribution of University Departments of General Practice, the Association has to emphasise the urgency of resolving the problems to which this response has referred. Failure to establish a secure and equitable method of funding for these departments will threaten not only their immediate contribution but their very survival.

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(2) ''The Mackenzie Report. General Practice in the Medical Schools of the United Kingdom—1986''. Howie, J G R, Hannay, D R Stevenson, J S K, University of Edinburgh, May 1986.

December 1986

Table 1

Clinical Topics—Number of Departments	
Respiratory Illness	14
Cardiovascular disorders	12
Psychiatric Illness	9
Diabetes	8
Gastro-intestinal Problems	7
Care of the Elderly	5
Arthritis/backache	4
Genito-urinary problems	3
Dermatology	3
Senile dementia	2
Chronic illness	2
Others	1

Table 2

Health Care Delivery/Operational	*Departments*
Prescribing	11
Computer assisted medical records	10
Preventive Medicine	9
Workload	4
Practice Nurses	4
Morbidity Patterns	3
Quality of care/Performance indicators	3
Information systems	3
Outpatient referrals	3
Laboratory investigations	2
Out-of-hours calls	2
Contraceptive services	2
Inner City care	2
Others	1

Table 3

Medical Education	
Consultation style/content of consultation/ teaching communication skills	3
Student assessment	2
Audit groups	2
Multi-disciplinary teaching	1
Evaluation of undergraduate course	1
Skills of Final Year medical students	1
Continuing education young GPs	1
Evaluation of training practices	1
Therapists in remedial professions	1
Computer assisted education programmes	1
Computer assisted diagnoses	1

Memorandum by the Heads of the Academic Departments Group (Social and Community Medicine)

INTRODUCTION

Our Group is comprised of heads of academic departments and research units in epidemiology and community medicine, including some health service research units. These disciplines are concerned with those aspects of medical practice and research which address the problems of health and health services in populations or communities rather than the health care needs of sick individuals. In our research we seek the causes and means of prevention of disease; means of promoting the public health through appropriate changes in the environment, in personal life-styles and in society; and how best to provide effective and efficient health services. Much of this work requires the skills of other disciplines, particularly statistics, behavioural sciences, health economics and management. Most community medicine research, therefore, is carried out by multi-disciplinary teams.

Our research falls into two main categories: epidemiological research, which is concerned with the aetiology and management of disease, and health services research (HSR). The former may greatly influence medical practice and the latter the quality of services. Both, therefore, are directly relevant to the needs of the NHS. However, as other groups are likely to submit evidence on the state of biomedical research, which includes most epidemiological research, we concentrate in this submission in our answers to the Sub-Committee's questions insofar as they relate to HSR and certain public health issues.

HSR has been defined as "The systematic study of the means by which basic medical and other relevant knowledge is brought to bear on the health of individuals and communities under a given set of conditions" (Subcommittee on HSR, Global Advisory Committee on Medical Research). Unlike most biomedical and clinical research it generally derives "from medical, social or political needs which arise outside pure scientific knowledge or motivation ... from the tasks which are considered to need investigation or enquiry in order to improve the health-service ... It is concerned with examining ... quality, distribution, access to, outcome, or effectiveness of health care services provided either by professional health care providers or by some alternative mechanism such as self-care or public health measures".[1] It thus serves in the first place to guide public health practice and the planning and organisation of health services, but also to audit clinical practice in the NHS.

Historically, the United Kingdom has always been a leader in health service development and has a proud record of innovation culminating in the institution of the National Health Service. Many of the concepts and methods of public health practice and epidemiological research have been pioneered in this country. The structure of the NHS offers unique opportunities for such research and there is a pressing need for it in order for the NHS to realise maximum effectiveness and efficiency. Yet, there has been and remains a significant gulf between the planners and administrators of the NHS, whose interest in research is dictated mainly by immediate planning demands, economic considerations and political pressures, and the researchers, who are more concerned with the scientific validity of their work. In our judgment, planners and administrators have largely failed to understand or have ignored the essential contribution of research to the development of the NHS. Researchers for their part too often seem to be divorced from the imperatives and realities of the service. This state of affairs is to the detriment of the NHS and needs to be corrected. We shall direct particular attention to our analysis of the reasons for the discrepancy and possible solutions.

(a) *How are priorities for medical research set? How do these reflect the particular needs of the National Health Service, or more generally the health needs of the nation?*

Research in community medicine is mainly supported centrally from two major sources, the DHSS and the MRC, and peripherally from some Regional and District Health Authorities. Priorities tend to be set in fundamentally different ways by each of these sources. The DHSS is concerned with national policy, which is politically determined, as are the priorities which it assigns to different areas of research. Health Authorities usually decide the questions they wish to be researched and assign their priorities on pragmatic grounds related to needs for planning and evaluation of services. The MRC receive research proposals from researchers, decide on their scientific merit and then assign priorities within the available funds, although this is heavily influenced by DHSS priorities. At present, however, there is no clear DHSS research strategy and the process of prioritisation and the criteria used to establish a hierarchy of merit are rarely made explicit. This creates considerable difficulties and uncertainties for researchers when deciding where to invest their efforts. It also militates against the logical and orderly development of research, particularly into subjects which are susceptible to changes in the priority assigned to them for political and administrative reasons.

At present it appears that DHSS research priorities are largely determined by short-term considerations in which current crises are the dominant influence. Thus research is predominantly reactive rather than proactive and broader issues of long-term importance tend to be neglected. Present policy seems to favour quick descriptive studies, and to neglect the analytic and experimental research needed for soundly based conclusions. We see this as a highly unsatisfactory state of affairs which severely limits the contribution of HSR to the NHS and the health needs of the nation.

An alternative approach to setting of priorities which does not necessarily serve the needs of the NHS or health needs of the nation any better than the DHSS approach, leaves the initiative to research workers who submit unsolicited grant applications to grant awarding agencies such as the MRC. The nature of the work they are invited to fund is determined by individual research workers interests and assessments of the attractiveness of proposals to those agencies. This carries the danger that too little weight will be given to the needs of the NHS and health needs of society.

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[1] Opit L, Holland W (1983) Health Services Research. Report, Department of Community Medicine, St Thomas's Campus, United Medical and Dental Schools of Guy's and St Thomas's Hospitals.

We see an urgent need to promulgate a national strategy for medical research which would establish the role and aims of HSR in relation to the needs of the NHS and the priority to be accorded to HSR as an essential component of national health service development. The strategy would further identify the broad issues which needed to be addressed in the long-term interests of the NHS. This would allow the formulation of coherent research policies and a range of programmes to which clearly defined priorities can be assigned. It would then be relatively simple to graft on immediate short-term practical questions which could be accorded their own priorities within the appropriate programme. This process whereby research policies and programmes are developed and priorities are assigned would demand major contributions from health care providers and researchers who understand what is needed and what questions research can help to anwswer. At present they are rarely included, which sometimes leads to irrelevant or unrealistic questions being asked.

In summary, we believe there is good reason for dissatisfaction with present mechanisms for defining and assigning priority to health service research. A mechanism is needed which integrates the perspectives of researchers, health care providers, administrators and politicians into the process of developing research strategies and priorities, which once set should be insulated from the winds of political expediency while being capable of accommodating short-term needs.

(b) *Is the present balance between different branches of research right? Assuming that resources are limited, what programmes might be cut back, in order to allow those which should be given a higher priority to expand? What programmes need higher priority? Would priorities change in the light of increased resources?*

Funding currently given to HSR is disproportionately small in relation both to that spent on biomedical research and to total expenditure on health services. Expenditure from government funds on biomedical research is currently at least five times as great as on HSR (Opit & Holland 1983). The value of biomedical research discoveries in the prevention and treatment of disease is directly related to the facility with which they can be made available to those who will benefit from them. HSR which is concerned with the development of effective and efficient health services is, therefore, an essential complement of biomedical research.

If expenditure on HSR were to be increased from its existing level of about 0.1 per cent of all health-related expenditure to 0.3 per cent an information base for improvements in efficiency and effectiveness in the NHS could be provided which would be likely to achieve savings many times greater than the cost of the research. Conversely, reductions in HSR expenditure such as the DHSS has recently been imposing are likely to lead to needless health service expenditure far in excess of the immediate savings.

We are concerned about two significant sources of imbalance within HSR: firstly the emphasis given to short-term needs at the expense of long-term issues to which we have already referred and secondly the inhibiting effect which the DHSS policy has on researcher-initiated HSR by concentrating funding on solicited projects (we return to this subject in our answer to question (d)). Regional and District Health Authorities should be encouraged to give more support to HSR, both through the Locally Organised Research Scheme and by funding health services investigation and evaluation units in local academic departments. Such units would collaborate with Health Authorities in identifying issues of particular local importance and in carrying out relevant research. This might include assessing service needs, investigating the quality of services and consumer satisfaction, evaluating different systems and supporting research by others (for example, clinicians) in their Region (see Patel *et al* Brit Med J 1985, 291: 1365–1366).

We are particularly critical of the current DHSS practice of commissioning research from management consultants which is of a nature which many academic departments of community medicine are at least as well and often better equipped to carry out, and at less cost. Yet generally academic departments have been excluded from the tendering process which is frustrating to them and potentially a loss to the NHS. We are disturbed that proposals from constultants and their reports are not normally subject to critical expert review, which is accepted practice in academic circles as an essential safeguard of scientific quality. We fear that present DHSS policy will inevitably lead to further attrition of research capability in the academic departments and deterioration in the scientific quality of information on which DHSS and Health Authorities depend for health service planning and evaluation. We believe that funds currently being dissipated on short-term consultancies would be more profitably invested in assisting longer term development of HSR capacity in the Universities.

(c) *Are priorities in medical research adapting to changing incidences of disease, changing population structures and new technology?*

A system in which the DHSS or Health Authorities both initiate most HSR proposals, and are the principal users of the results, might be expected to be more sensitive to changing needs than one in which funding institutions react to the proposals of researchers. However, whilst the former system ensures that problems requiring urgent attention are addressed, its capacity to identify and respond to long-term needs is currently very limited because of the over-riding influence of short-term political considerations.

For example, far too little attention is paid to the consequences for health services of the greatly increased proportion and numbers of persons in the population over 85 to be expected during the next two decades; the problems of finding the most appropriate form of care for the tens of thousands of patients with chronic mental illness who were formerly long-term residents of mental hospitals but who are now living in the open community have not been sufficiently recognised; the need for evaluation of the effectiveness and efficiency of new technologies is either not recognised or only recognised after their introduction when it is impossible to conduct the necessary trials; the response to AIDS as a public health crisis has been characterised by unrealistic expectations of research capacity—partly because research resources in infectious disease epidemiology have been allowed to wither, partly because despite the predictions of many public health researchers the need was not appreciated soon enough, and partly because the time-scale required to undertake such research was underestimated.

(d) *How are priorities in medical research influenced by the institutions through which research is funded? How does the balance between public, commercial and charitable funding of research affect the setting of priorities by the different institutions involved?*

Most HSR is supported from public funds (including, substantially, the UGC, from which the salaries of most grant holders in university-funded academic posts are derived). Our main anxieties about ways in which the funding bodies influence the direction of research relate to two problems posed by the DHSS to which we have already alluded: firstly that it mainly supports research which it has itself solicited and secondly that the priorities for its research programme are largely politically and administratively determined. In so far as the development of effective health services depends on sound innovative research, the DHSS's failure to accord unsolicited research a significant role inhibits the initiatives and originality of academics and deprives the NHS of the benefits which these might yield. Its reliance on the priorities of policitians and the Health Authorities or administrators accountable to them tends to bias HSR towards those fields which have immediate public appeal, in which results may be obtained quickly, and which have a direct pay-off in financial terms. A more insidious and sinister effect is that it militates strongly against any research in which the results may be politically unpalatable. The essential academic role of questioning and challenging conventional wisdom and practice is thereby weakened.

The time-scale for research often demanded by DHSS and Health Authorities can also militate against good quality research. Policy makers often fail to realise that imposing too severe limits on time allowed for research can adversely effect the reliability of results and that it is often unnecessary to do so. For example, having decided to adopt a particular policy it is usually possible to phase its implementation in such a way as to evaluate its effectiveness at the same time as it is being introduced.

Commercial and charitable funding of public health research is very limited. Charities tend to fund aetiological and curative research related to specific diseases with which they are identified. Commercial groups, with few exceptions, have little interest in public health research which does not help sales of their products and may even conflict with their real or supposed financial interests. Therefore, this area of research depends and is likely to continue to depend mainly on public funds.

(e) *Are the results of research adequately disseminated?*

Many disciplines are involved in providing health care and carrying out HSR. The results, therefore, are published in a wide variety of journals, where not all the NHS personnel to whom they are relevant will see them without the help of a good literature searching service. A forum such as that suggested in Section (f) below could assist in this respect. However, even where the results are adequately disseminated, there remain problems (see section (g)).

(f) *How is unnecessary duplication of research effort avoided?*

Duplication of effort in DHSS/MRC-funded HSR should be readily avoidable, since all DHSS funded research is handled through the DHSS's Research Management Division, and the MRC does not fund HSR projects without showing them to DHSS. The safeguards against duplication in other HSR are the same as in research generally, and include peer review and the listing of ongoing projects in the British Library's annual publication "Current Research in Britain". Some replication of research is, however, desirable as a means of validating the applicability of findings in different settings.

The WHO Advisory Committee on Medical Research has advocated that each country should establish a national focal point for HSR activities. The idea of a national health service research institute along the lines proposed by the Royal Commission on the National Health Service has not been widely supported. An alternative solution might be the setting up of a health service research board which would include representatives of each of the main funding agencies, health service planners from DHSS, Regions and Districts, and involve all relevant research disciplines. (Acheson R M Lancet 1980, 2, 1307 and 1981, **1**, 788). A device of this type which would bring those who plan services, those who provide research funds and the scientists who undertake research into a single forum might help both to co-ordinate and to improve the relevance and quality of HSR at national and local levels.

(g) *Is research reflected as it should be in actual improvements in patient care or health education? If not, why not?*

The implications of research work, even when the results are adequately publicised, are frequently either not understood or not accepted, and are not incorporated into routine medical practice or health care planning. Even worse, there have been occasions when the research-funding section of a body, such as the DHSS or a Health Authority, has received the report of a project it has commissioned and funded, and yet the policy-makers within the same organisation have apparently ignored or have been unaware of the results when deciding how to deal with the problem addressed by the research project. This seems to us to be inexcusable. It might be avoided if ''some personnel capable of influencing the adoption of successful findings are involved from the outset in confirming the importance and relevance of the research and in its definition and progress, so that there is not only interest but a potential commitment to assist with the adoption of the findings in their area of responsibility'' (Ashley-Miller and Kay, op cit, p 408).

(h) *What changes in priorities in the training of medical researchers are needed?*

The effectiveness and efficiency of HSR depends on the existence of a critical mass of researchers with an appropriate range of expertise aggregated into teams located in a limited number of units or groups. Work done on an occasional basis in isolation tends to be more trivial, less useful, and in the end, more expensive than that carried out in larger groups with greater continuity and breadth of expertise and experience.

There is a serious shortage both of medically qualified researchers in this field and of non-medical scientists such as statisticians, behavioural scientists, health economists etc., due partly to shortage of funds, partly to lack of training opportunities and partly to poor career prospects. Research cannot be expected to flourish if it is too heavily dependant on researchers with short term employment contracts on project grants, who are inevitably junior and inexperienced. There is a need to recruit and train a cadre of able researchers from range of disciplines who are prepared to commit themselves to careers in HSR. To do so they must be given reasonable security over periods which are realistic in the time-scale of HSR programme development.

Three or four year training fellowships for gifted workers in HSR should be provided, involving work under the direction of senior staff in an appropriate academic department or unit, and secondment for didactic training where necessary. Other ways of improving the career development of HSR workers, especially those who are non-medical, whose employment at present usually depends on projects grants which offer no security also need to be explored. Even when the quality of their work is high such people can find it difficult to gain and maintain recognition in their parent disciplines, especially if their output takes the form of reports to DHSS or Health Authorities rather than publications in academically recognised and reviewed journals and periodicals.

(i) *Should any specific changes in organisation or funding be made in order to increase the quality, quantity or application of research?*

We would favour the following changes in DHSS practice:

(i) Scientists with HSR experience and practising community physicians should be involved more fully in the development of public health research policy and the setting of priorities, for example by including such people on the DHSS Departmental Research Committee and by strengthening the Research Liaison Groups.

(ii) Academic research workers should be used by DHSS whenever appropriate in preference to management consultants in the private sector. We know of instances where contracts have been awarded to consultants at much greater cost than would have been incurred by a similar study or one of higher quality in an academic unit. One reason given for this apparent extravagance is that consultants have reserve capacity which enables them to respond more quickly than academics, but building such a capacity into some academic units in the long term would cost considerably less than the continued use of consultants. Our Group would be pleased to collaborate in a mechanism to identify relevant expertise.

(iii) Our Group is disturbed that research proposals submitted by management consultants and their reports are not normally subject to the type of critical scientific peer review which is the pattern with academic research. We regard this as an essential safeguard of the quality of research, the dependability of the results, and the efficiency of the work. The expenditure of public funds without these safeguards seems to us to be unacceptable in principle and potentially wasteful. The fact that the results are not published and so are not subject to critical evaluation also allows the possibility that unscientific results may be wrongly acted on or politically unwelcome results may be suppressed, neither of which is in the public interest.

(iv) DHSS should exploit more fully the initiative and originality that exists in academic departments by giving them the opportunity both to tender for some of the HSR that it wishes to fund (similar to the Request for Proposal system used in the United States) and also to put forward unsolicited proposals for funding.

(v) A few Regional Health Authorities should be encouraged to set up HSR units as pilot projects in local academic departments, possibly supported initially by central government funds.

(vi) To avoid needless disruption of their work, academic departments undertaking HSR should be informed at least one year in advance of any proposed changes in funding. For example, the DHSS funding of psychiatric registers was stopped with only 4.5 months notice of this change in policy.

(vii) Consideration should be given to establishing a national health service research forum which would involve those concerned with planning services at various levels or with providing research funds, together with representatives of various scientific disciplines which contribute to HSR, with the aim of co-ordinating research and improving its quality and relevance.

(viii) A policy for recruitment, training and career structure should be agreed for HSR scientists, especially for non-medically qualified researchers.

May 1987

THE EXTENT OF NHS FUNDING OF TEACHING STAFF IN COMMUNITY MEDICINE DEPARTMENTS OF UNDERGRADUATE MEDICAL SCHOOLS

This summer, the heads of all the 28 departments[1] responsible for teaching community medicine to undergraduate medical students in the United Kingdom completed a questionnaire showing (a) how many teaching staff on their departmental payrolls were funded by UGC funds and how many by the NHS, and (b) how the NHS-funded staff divided their time between academic work (for example, health services research and the teaching and academic supervision of trainees in community medicine) and the "bread-and-butter" duties commonly performed by community physicians without academic links.

The two Tables show the distribution of the 28 departments in respect of the numbers of academic staff members of various kinds within them. Posts reported have been included if they were described as vacant but not as frozen, but the routine service components of posts described as "split posts" (posts involving substantive contracts both with the NHS and with an academic institution, as opposed to academic posts with honorary service contracts) have not. The upper part of Table I shows how the departments were distributed in respect of the whole-time equivalent numbers of posts with Specialist in Community Medicine contracts in each department which were funded by the UGC, by the NHS for academic work, and by the NHS for routine service work. The lower part of this Table gives similar data for various other categories of staff. The data indicate that teaching posts (including part-posts) funded by the NHS for academic work as opposed to "bread-and-butter" NHS work only exist in 43 per cent of medical schools for staff at Specialist in Community Medicine level; in 25 per cent for trainees; and in 21 per cent for non-medical staff. Even among the schools that have some such NHS-funded staff, only about half have more than 0.5 wte of such staff in any one of the above three categories.

The distribution of the departments in respect of total numbers of NHS-funded staff undertaking academic work, of all UGC-funded staff and of both these categories combined (all in wte), is shown in Table II. In this Table, staff funded by DHAs and RHAs are distinguished; and as the balance between these might be expected to be different in Regions with one medical school, in those with two or more, and in countries without Regions, Table II also distinguishes between schools in these three settings. Among the 10 schools in single-school Regions, six have Regionally-funded staff and four have District-funded staff doing academic work. The corresponding figures for the 12 schools in multi-school Regions are two and six. In all, 70 per cent of the former group of schools and 50 per cent of the latter have NHS staff doing academic work. In a majority of the schools that have such staff, they exceed 0.5 but not 1.5 wte.

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[1] The department(s) in each of the twinned pairs of London medical schools were treated as one or two depending on whether they are separately represented in the Heads of Academic Departments Group (Social and Community Medicine).

These figures do not of course give a complete picture of the resources that are available to departments for their academic work; but neither do they show the substantial amounts of work done by UGC-funded staff for the NHS. What they do show is that about three fifths of departments have some teaching staff (most often around one wte) funded by the NHS in respect of academic work such as health services research and postgraduate training.

September 1986

Table I

Distribution of 28 departments by number of wte posts of each kind

	Number of departments in which wte of posts of the stated type is:						
	0	*−0.5*	*−1.5*	*−2.5*	*−3.5*	*−4.5*	*>4.5*
Distribution by number of posts with SCM contracts:							
UGC-funded	0	3	6	11	6	2	0
NHS-funded—							
for academic work	16	6	5	1	0	0	0
for routine service work	22	4	1	1	0	0	0
Distribution by number of posts with NHS trainee contracts:							
UGC-funded	18	1	9	0	0	0	0
NHS-funded—							
for academic work	21	4	3	0	0	0	0
for routine service work	23	3	1	1	0	0	0
Distribution by number of other medical posts:							
UGC-funded	25	2	0	1	0	0	0
NHS-funded—							
for academic work	27	1	0	0	0	0	0
for routine service work	28	0	0	0	0	0	0
Distribution by number of non-medical academic posts:							
UGC-funded	7	0	11	6	3	0	1[a]
NHS-funded—							
for academic work	22	3	3	0	0	0	0
for routine service work	26	1	1	0	0	0	0

a. 6 posts.

Table II

Distribution of departments by number of wte teaching posts funded from different sources (not counting posts or part-posts funded by NHS to undertake routine service work)

	Number of departments in which wte of posts of the stated type is:								
	0	*−0.5*	*−1.5*	*−2.5*	*−3.5*	*−4.5*	*−5.5*	*−6.5*	*>6.5*
10 departments in single-school Regions by number of—									
UGC-funded posts	0	1	1	1	2	1	3	1	0
RHA-funded posts	4	1	3	0	2	0	0	0	0
DHA-funded posts	6	4	0	0	0	0	0	0	0
Total NHS-funded posts	3	1	4	0	2	0	0	0	0
TOTAL UGC- OR NHS-FUNDED POSTS	0	0	1	0	1	3	3	1	1[a]
12 departments in multi-school Regions by number of—									
UGC-funded posts	0	0	2	3	2	2	2	0	1[b]
RHA-funded posts	10	2	0	0	0	0	0	0	0
DHA-funded posts	6	2	4	0	0	0	0	0	0
Total NHS-funded posts	6	2	4	0	0	0	0	0	0
TOTAL UGC- OR NHS-FUNDED POSTS	0	0	0	4	3	1	1	2	1[b]
6 departments in Scotland, Wales, NI by number of—									
UGC-funded posts	0	0	0	1	1	2	1	0	1[c]
Posts funded by national body	5	0	1	0	0	0	0	0	0
HB/HA-funded posts	3	1	2	0	0	0	0	0	0
Total NHS-funded posts	2	1	3	0	0	0	0	0	0
TOTAL UGC- OR NHS-FUNDED POSTS	0	0	0	0	0	2	2	1	1[d]

a. 6.65 posts.
b. 7 posts.
c. 12 posts.
d. 12.5 posts.

Examination of witnesses

Professor J H WALKER, Chairman, Association of University Teachers of General Practice; Professor D L MILLER, Chairman, Heads of Academic Departments Group; Professor I LECK, Professor of Community Medicine, University of Manchester and Professor J G R HOWIE, Professor of General Practice, University of Edinburgh, called in and examined.

Chairman

1375. Good afternoon, gentlemen. Thank you for giving us your time this afternoon. We appreciate that very much. Could you tell us who you are, please?

(Professor Miller) Yes, my Lord. I am Professor of Community Medicine of St Mary's Hospital Medical School and I am Chairman of the Heads of Academic Departments of Community Medicine in the British Isles.

(Professor Walker) I am from Newcastle-Upon-Tyne. I am the head of the Joint Department of Family and Community Medicine so that I have interests in both sets of evidence this afternoon, but I am here as Chairman of the Association of University Teachers of General Practice, from whom you have had written evidence.

(Professor Howie) I am Professor of General Practice in the University of Edinburgh, and Chairman of the Heads of Departments of General Practice.

(Professor Leck) I am Professor of Community Medicine in the University of Manchester and ex-Secretary of the Heads of Academic Departments of Social and Community Medicine.

1376. Thank you very much. May I express our appreciation of the papers which you have submitted to us. They are very useful preliminaries to our questioning this afternoon. Before we start the questioning, are there any points you would like to add to what you have already put before us?

(Professor Miller) My Lord, I am not sure that we specifically wish to add, but may we just make

[Chairman *Contd*]

one or two introductory remarks about the points we particularly wish to emphasise?

1377. Please do.

(Professor Miller) The first thing is that we are intrigued that you have chosen to invite community medicine and general practice to give evidence before you together. We are very glad that you have, because as a matter of historic fact community medicine and general practice have often grown up side by side within the same academic departments, and while the practice of our two disciplines is distinct, the emphasis is different, nevertheless there are some very important areas of common interest and concern. Particularly I think that applies in the research field, although we do of course have our separate interests in this also. We could illustrate some of the points of similarity and points of common interest as well as points of difference. I think one very important point of common concern is the fact that, perhaps because we are relatively young as academic disciplines, we have found considerable difficulty in gaining sufficient support for research in our disciplines in competition with the much more established basic medical sciences, and hospital—based clinical medicine which have long established traditions in research and some very powerful advocates. I think that is the first thing to say: that we feel ourselves to be comfortable giving evidence before you together because we have common interests, though we also have some separate concerns.

1378. On that particular issue, may we conduct the questioning on the basis we put the questions to you collectively, and if there is a common answer you give a common answer, but if there is a different answer please make it clear to us?

(Professor Miller) Certainly. We are aware that there are some things which will be more appropriately answered by one or other of us and I think we may just turn to each other when we think that is appropriate. The first major point we wish to stress in our evidence is our feeling that, perhaps because of the difficulties that I have outlined, there is the need for some kind of independent research body which has got both the funds at its disposal and the organisation necessary to support research in the fields of public health and primary care. We would see this as a forum within which it would be possible to promote and co-ordinate research in these fields, which at the moment is, we think, not only insufficiently developed but all too often fragmented and lacking in any clear research strategy. The second major point of emphasis we would like to put before you is the suggestion that there is a need for multidisciplinary research facilities at regional level, possibly based in academic departments of community medicine and/or general practice, which will bring together a number of different types of research expertise. This we feel, is fundamentally necessary to establish the critical mass of researchers, not only medical but also non-medical disciplines which are particularly important in our fields of research, and the required support facilities which will allow the generation of viable research programmes related to defined priorities and research strategies. It would also provide a standing research resource which we see as necessary to support Health Service planning and development and the evaluation of services locally. Activities of this sort might be developed more strongly in some universities than in others. Some might be funded by the Department of Health and Social Security. Others might be funded either jointly with DHSS or independently by regional health authorities, which would enable locally important strategies and priorities for research to be developed. The third point we wanted to make was that if in fact one is able to establish such critical mass of researchers locally, in university departments, it will be essential in order to build and maintain a research capacity in our fields to have much better developed training and career structures in all of the relevant disciplines. At the moment far too many people working in our departments lack sufficient security or career prospects for us to build units which can accept and handle commissioned research from health authorities and/or the DHSS. The final point we wanted to stress was our very considerable concern over the last question which you have suggested you may wish to discuss with us, that is the freedom to publish results of research. We feel very strongly that this freedom is critical to the credibility of research and in the public interest. Researchers should feel that they have the freedom to address the problems which confront them without any inhibition about the acceptability or otherwise of what they may find and have complete freedom to publish this in the way in which they feel is appropriate, subject of course to the kinds of safeguards about confidentiality which are already expressed in the existing research contracts. There is a fear, rightly or wrongly, that in amending research contracts the Government is seeking to extend its ability to control publication of unpalatable research results. That has aroused very considerable concern. My Lord, that is all I wish to say but I believe my colleague Professor Howie may want to add one or two points related to general practice.

1379. Could I just ask a question on what you have told us? Are these multi-disciplinary centres to which you refer already in existence, or some of them, or is this a new idea?

(Professor Miller) There are a few units but very few indeed. Although some of us working in this field have been able to assemble multi-disciplinary groups on the basis of short-term research contracts, we feel that short-term research contracts are unsatisfactory from the point of view of building a flexible and continuing research capacity.

1380. They tend to be ad hoc groups?

(Professor Miller) They tend to be very much ad hoc groups.

Lord Hunter of Newington

1381. What would be the budget for the core of this group which you feel should be in every region, I think?

(Professor Miller) We would not like to suggest that there should be a budget which would be the same for each and every region, but if you are asking us what we feel might be a global sum that would be appropriate at least initially to start the kind of work we are talking about, it is a figure somewhat off the top of our heads but we believe it might be something of the order of £20 million that would allow us to make a reasonable start.

Baroness Lockwood

1382. I am not quite clear about this. Do you envisage that general practitioners will participate in the research and, if so, on what basis, or are you thinking of assessing and evaluating the general practice service?

(Professor Walker) Professor Miller, I think, was describing the general health service or multidisciplinary team. Of course general practice would contribute. We, of course, have several thoughts as to how this might be encouraged. The essential element would be that within such a multidisciplinary team as outlined by Professor Miller there was a sufficient core of academic general practitioners who could relate to their colleagues in Service practices and encourage, support, educate, exhort, enthuse—a facility which at the moment we seriously lack.

Lord Hunter of Newington

1383. Chairman, could we go back to the question that we asked? Is the answer that there should be £20 million a year every year in relation to the total Health Service or in relation to each regional centre, or what?

(Professor Miller) We are talking about that as a possible sum to be at the disposal of a central research authority, whatever we choose to call it, to support research in public health and primary care.

1384. What sums do you think the Government spends at the moment in the Health Department on what they call health services research?

(Professor Miller) I do not have figures.

Lord Hunter of Newington] It is about £20 million a year.

Lord Kearton] Given as 0.1 percent in the paper—yes, it is £20 million.

Chairman

1385. So this is additional to what is being done already?

(Professor Miller) Yes, my Lord, but in fact only a small proportion of the present DHSS health service research budget was to academic departments of community medicine and general practice or for public health and primary care research, which would be the main concern of the proposed new research authority. I think that Professor Howie could enlarge on that.

(Professor Howie) I could give an example from our Scottish experience where there has been an HSR unit created in the North of Scotland. It has taken a year to agree whether "H" stands for hospital or health. I think we all feel that Health Service research tends to be centred round hospital problems and we are talking about £20 million to try to break from the hospital-out model and try and develop a community-in model.

Lord Kearton

1386. The papers suggest 0.3 percent, that is, £60 million—another £40 million.

(Professor Howie) We would be happy to take that.

Chairman

1387. Perhaps we ought to let Professor Howie make his introductory remarks.

(Professor Howie) On behalf of Professor Walker and myself, we would like to draw attention to the fact that departments of general practice are the newest large discipline to enter medical schools: because we have been largely created as a teaching resource and have necessarily had to take on considerable service work to contribute to our keep, the research tradition has not been developed properly. We lack in particular infrastructure to allow us to do the kind of pilot researches that are so important in bridge-building exercises between ourselves and social science and ourselves and specialists, which are also necessary. This can be reduced in very simple terms to saying we do not benefit from the NHS SIFT support which is given to all other clinical academic disciplines. This means in short that we have no house officers, registrars and senior registrars, who are at the creative and ambitious stage of their careers, who contribute so much to getting research going, and our departments are uniquely disadvantaged in not having this facility. We have been campaigning, as you perhaps know, with the Department of Health to get a SIFT equivalent for departments of general practice. We had hoped to have been able to see the White Paper on Primary Care which we believe is coming out today before we came to meet you to see if our request for help has been met. We believe that there is a lot of sympathy for us and we are very hopeful, but it would be extremely helpful if we could get this kind of infrastructure funding supported by yourselves. Without this we have no chance of contributing in the way we would like to and are able to. With it we might be halfway there and with the other £20 million—or £60 million!—I think we could make a very important contribution.

1388. We have not seen this White Paper to which you refer. My Clerk tells me it is going to be published within half an hour, or 5 minutes. Is there

[Chairman *Contd*]

any reference to research in that or is it just commentary on general practice?

(Professor Howie) We would hope there will be, because the Royal College and I believe probably the British Medical Association through the General Medical Services Committee have been supporting the kind of things I am saying, and we certainly have been putting pressure through these two on Ministers, and through the officials in the Department of Health. We believe we have their support.

(Professor Walker) If I could add one point, just as an example, in the blue/green paper which preceded the White Paper reference was made to providing general practitioners with details of their referral rate to hospital and, of course, this would be extremely helpful, but it would only be the first step in a clinical audit procedure which would be quasi-development, quasi-research, but which would require the sort of skills we believe academic departments can provide. So we hope, therefore, there are both reference to and development of that idea in the White Paper.

Lord Kearton

1389. In the end result let us hope that your feeling that you may get something is fulfilled. That would be over five years or so. That would be quite a major change in the way in which the Health Service is run.

(Professor Howie) Yes.

(Professor Walker) We would like to think developments of this type might allow the Health Service more accurately to assess population needs and organise itself to meet them.

1390. In other words, to be run more rationally?

(Professor Walker) Yes.

Lord Perry of Walton

1391. To a very large extent this is management service information that is needed in order to provide a service, or have I got it wrong?

(Professor Howie) I think that is a start. What we very much want to try and do is to involve patients in deciding what is a good way to run a health service. Until we can, in fact, really get involved in social science research, which we have not had the time and do not yet have the skills to do properly, we are in fact providing perhaps rather superficial management data which is better than none, but we would like to provide what we call proper academic data.

1392. It is still needed by management if they are going to modify the nature of the service.

(Professor Howie) You can manage with data, it does not need to be good data.

Lord Perry of Walton] It does seem to me particularly important because, if you confront the management in any walk of life with the idea that they need some information, you are more likely to get money out of them than if you call it research.

Chairman

1393. Your relationship is very much with the regional health authorities in many respects. To what extent do you find your proposals for research work are supported by the regional health authorities and to what extent do you find it very difficult to obtain any support?

(Professor Miller) The position varies very much from one regional health authority to another. There is certainly no uniform or automatic provision for assisting academic departments to undertake locally relevant research. There is the Locally Organised Research S cheme, but that is primarily designed to assist young hospital physicians and surgeons in clinical research and very little of it in fact comes into Health Service research and as far as I know probably none into primary care research. There are in some regions arrangements for the support of posts in academic departments but this is on a very limited scale and usually (almost always) at junior level. There are very few regions in which there are senior or career appointments supported from regional health authority funds, so that there is no sound infrastructure provided by the regions to enable academic departments to undertake research to meet regional needs.

1394. Why would you say there was this variation between one region and another? Is that just the personalities of the people concerned or their outlook, or are some regions better endowed, shall we say, than others?

(Professor Miller) Oh, I do not think that it is a question of endowment. I think it is a question of the perceptions of those involved of the importance of research to their planning and policy development.

1395. I do understand that—it seemed to me it would be equally important to them all.

(Professor Miller) Well, we would think that too. There is no question we would agree that it is important, but I think that the priority given to this is very variable and we think that it is extremely important for good Health Service management that there should be proper investigation of health status, (and there is very little research into health status,) and of health care need, within regions. We think it extremely important for the effectiveness and efficiency of Health Services, both locally and nationally, that there should be proper evaluation of the services, and this is the sort of thing which units of the kind that we were suggesting would be able to undertake. It is very difficult to do this sort of thing on an *ad hoc* basis, on an occasional and small scale basis. It needs to have a minimum stable core staff. You need to have people with the requisite skills and experience which can only be acquired over a period of years.

[Chairman *Contd*]

1396. It is the only way you get what you might call really professional competence?

(Professor Miller) Yes.

Lord Hunter of Newington

1397. The skills and techniques and methodology all exist, do they? There are no problems in tackling some of the more difficult Health Service situations, or is this exploring new methods and new techniques?

(Professor Walker) Indeed. The skills have to be developed. This is one of our most urgent needs. There are multidisciplinary units in which one is fortunate to find a large range of talents that are required for complex elements of many of the problems. The problem nationwide is of recruitment and of training of the next generation of workers, whether these be medical (particularly in the case of general practice where there is as yet no satisfactory tradition of research) or non-medical, because it is not a particularly attractive career when security only reaches as far as the end of the current, very short-term, grant, and so one of our top priorities we feel is to establish some mechanism which demonstrates the commitment of Government and the DHSS to, as Lord Kearton points out, the scientific management of the Health Service, and a proper recognition of the role which well-founded and well-constructed research can play in establishing policy. We wonder whether in fact that is a rather unrealistic ambition.

1398. Would you propose to have one or two pilot centres in selected regions or centres to develop methods and techniques or have 20 different centres doing this?

(Professor Walker) We do not think any of this, were it to be capable of achievement, could be achieved overnight, so that inevitably I think this would be a slow developing process in which hopefully each unit or each reinforced department would be seen as an experiment which in itself could be evaluated.

Chairman

1399. Perhaps Professor Howie could tell us in what way Scotland is different?

(Professor Howie) Scotland has the advantage of having its own health department which administers money of the kind of order we are talking about to four university centres, and it is a small enough region that the people who are active in research are known to each other and in fact this is a very handy size of region to administer a sum of money of the kind of order we are talking about. It does mean that we both avoid unnecessary duplication, but also get on well enough with each other to share ideas and methods.

1400. I rather get the impression that this particular work receives more support in Scotland.

(Professor Howie) Well, that is because we have probably been campaigning for it more concentratedly. Could I just give a little bit of an example? In my research group in my department of general practice, I have a health economist, a sociologist and a nurse. It has taken 5 years to get together a project that could be funded during which time we could have been doing the research that we want to do and within two years I am going to have to go out and get more money to continue to keep the group together. If we had a little bit of open-ended funding, we could in fact be doing ten times as much and developing some of the extremely difficult social science methods that are needed to do things in depth. Particularly we are looking at the areas at the moment of patient satisfaction, and it is terribly easy to get simplistic measures of patient satisfaction, but the more a group of people start working together the more you realise that there is short-term satisfaction, which equates with people having their expectations met, and long-term satisfaction which equates with having their needs met, and you cannot start researching this kind of thing if you are looking over your shoulder for your next £10,000.

Lord Kearton

1401. What is interesting is that in business and commerce there has been an absolute proliferation—one would almost say exploitation—of consultancy organisations telling people how to run their businesses better and even in the hospital service you are beginning to bring in some of these people to different regions to say how different bits of the organisations can be run better. In so doing, the companies always seem to us to benefit enormously from the feed-in they get from the clinicians and the RHAs. Does it not seem common sense to spend money in this area?

(Professor Miller) I think on that, my Lord, one of the criticisms that has been levelled at academic departments is in their ability to undertake research related to management policy decisions within the time scale required by management. But this is largely a matter of not having the necessary stability and resources.

1402. Yes. You have not got the people and it takes a long time.

(Professor Miller) Yes. What happens is that management consultants do have staff on a permanent basis who they can employ as and when the demand arises from their customers, whether it is Health Service or business. We do not have this in-built capacity.

Chairman

1403. But with no knowledge of the specific area under examination?

(Professor Miller) Exactly. Then we find they need to come to some of us to help them to undertake their commission which seems a little odd, to say the least, whereas in fact if there were a sufficient core of staffing within some of the departments we are talking about, (community medicine and general practice,) then we would have the capacity to do this, we think, with more

[Chairman *Contd*]

independence, with a sounder background understanding of the Health Service and of its problems, and greater scientific rigour, but we cannot do this on the present basis whereby, if we are asked to undertake a piece of research of this sort, the first thing we have to do is find the time, the energy, to divert ourselves from our other commitments in order to prepare a detailed formal grant application. If I may give an example of this, I at the moment am concerned with developing a research protocol to look at the Health Service needs of patients with AIDS, people with HIV antibody, and of the people who care for them. Now that, one might think, was a very important piece of Health Service research but we cannot get on with the work without recuiting new staff. So we have to spend a lot of time planning a detailed research protocol which is going to be submitted, of course, for grant support.

1404. Submitted to whom?
(Professor Miller) It will be going to the Department of Health and Social Security.

Chairman

1405. Direct?
(Professor Miller) Direct. In this case we will be submitting it direct to the DHSS.

Lord Kearton

1406. There is a planning programe with some £6 million for AIDS research. What is the cost of your submission?
(Professor Miller) We have not costed it yet.

1407. Roughly?
(Professor Miller) In round figures I suppose a project of this sort, with the staffing requirements, would be likely to be of the order of £50,000 to £60,000 a year plus support costs.

1408. You are talking about 1 percent or 2 percent of the total AIDS programme?
(Professor Miller) Yes, we are not talking about huge sums of money.
(Professor Walker) I wonder if I might try to answer Lord Kearton's questions from the standpoint of the general practitioner. I think the industrial analogy is useful because here we are really talking about corner shops rather than a large industry. One of our problems, of course, in academic departments has been this very problem, that we too are corner shops and our departments are incredibly small, and the research and development work which colleagues in my own department have been undertaking in the field, for example, of prescribing illustrates this. We have published a rational restricted formulary which is the result of group work within the department which we could show, as in fact an economist is beginning to show, will save many thousands of pounds a year when adopted. This sort of work sadly is done at the personal expense of the individual doctor himself; there is no mechanism whereby that sort of development work in fact can be funded. It is not seen as research by local research committees but as a legitimate function of an academic department, but in fact the academic department itself is funded largely from clinical services provided to patients. So we are again in this chicken and egg situation and we sadly are unable to spend the amount of time that has just been referred to by Professor Miller in putting together research protocols. Many of the research protocols take more time to put together than the actual work takes to be completed.

Lord Perry of Walton

1409. I do not want to give the wrong impression, because I very much agree this is a very important area to be funded, but it does seem to me (I have to be a bit provocative) that general practice and community medicine are in fact, in academic terms, the application of all the disciplines of medicine in a particular social setting rather than disciplines in themselves. Therefore, it seems to me that, if you talk about research in the discipline, you may be going about it the wrong way, which brings me back to the concept of providing management services information. I think academic departments of general practice are needed for its teaching of medical students: there is no argument about that. Whether it would be better to have research done separately from the academic departments is the question I raise. Would that not enable more money to become available by making the research more appealing to the National Health Service?
(Professor Howie) I think, my Lord, it was Cardinal Newman who stated that the criteria of discipline included the ability to support research and have a philosophy, and if there is a philosophy in the discipline of general practice it is that it is a part of medicine where necessarily, because of the kind of patients who come to us, there is a relatively higher proportion of patient features as against illness features, and this wholly changes the kind of techniques that are appropriate to conducting consultations and the kind of background influences that go into making clinical decisions. I believe it is only when we have been given a proper chance to show what we can in fact do by research that Lord Perry's anxieties will be put to rest.

1410. The question is, you believe it but do the people who provide the money believe it?
(Professor Howie) They do not.

Lord Kearton

1411. On raising funds, a lot of people are getting more and more professional about it. There are structural funds coming from Brussels to help different parts of this country and those areas which have employed professional lobbies, which usually work in Brussels or work in Whitehall and which know how the system works, found it paid them enormously. They may have had to pay a considerable fee to the professional, as it were,

[Lord Kearton *Contd*]

application specialist but it pays off. I get the feeling that you are very fragmented and each department seems to be putting in its own application, with immense overlapping and so forth and an awful lot of paper flying around. Could it not be more concentrated and professionalised?

(Professor Miller) I think, my Lord, that is precisely what lies behind our suggestion that there should be regional concentrations of interdisciplinary expertise which will involve doctors from different disciplines, and I agree with Lord Perry that the problems with which we are dealing are not the isolated problems of community medicine and primary care; the problems we are talking about are matters of concern to the practice of medicine generally and to the provision of health services generally. What I think we are suggesting is that we do have a particular expertise in the research techniques required to address some of these issues which are not exclusively found in departments such as ours but which certainly are concentrated there. I think that, if there is going to be effective health services research, then it is something that does require the integrated expertise not only of doctors but also of nurses, of statisticians, of behavioural scientists, of economists and so on. These are the people whom we are talking about when we talk about the need for interdisciplinary teams.

1412. I accept all this, but do you have sufficient professional lobbying to achieve what you want to do?

(Professor Howie) We have, my Lord, been conducting a great deal of such professional lobbying behind the White Paper I was talking about. We have come late to recognising the importance of it, but that is because we have been so fragmented looking after patients.

1413. You are making my point for me.

(Professor Howie) Yes.

Chairman

1414. Could we come back to this question of setting priorities for research which is in our terms of reference? Obviously you are expressing a good deal of dissatisfaction with the setting of priorities within those areas of your interest. Have you any suggestions to put to us as to what would be a satisfactory method of setting up priorities which, of course, would mean presumably making more funds available for the work you think ought to be done?

(Professor Miller) I think priorities can be set at a number of different levels. To begin with I think it has to be established what priority Parliament and the Department of Health will accord to research within its total strategy for the Health Service. Then having decided what priority is to be given to that, (which obviously has financial implications), broad research strategies need to be developed in DHSS, which we believe have been singularly lacking, which again would have to have a structure of priorities—whether for example support should be given to research on preventive services or to different options in the provision of particular kinds of care and so on. These sorts of priorities I would suggest need to be decided at national level. Then at regional level there will be other types of priorities.

1415. I appreciate that, but what I am really trying to get at is to what extent would you recommend change on what has been current practice?

(Professor Miller) I think what is needed is a much closer dialogue or interaction between the policy makers, the providers of health care services, and the researchers, and all of them really need to get together much more closely. We believe that the independent research authority which we are suggesting at national level would provide the forum within which that kind of discussion can take place.

1416. This independent research authority would be within the NHS presumably?

(Professor Miller) Yes, I think so.

1417. And have some funds allocated to it otherwise it would be toothless, would it not?

(Professor Miller) Yes.

1418. Would it then operate centrally, or would it operate through the regional establishments?

(Professor Miller) Well, I think there are some issues which require research centrally, because they are of general concern and applicability. There are other matters which are of more regional concern so I do not think one can give a categorical answer to that.

Lord Rea

1419. Would this body be equivalent to the Medical Research Council in that it would invite tenders or applications from people who had projects that they wished to undertake, rather than the other way round?

(Professor Miller) I think we are talking about a more pro-active role, perhaps, than the MRC has.

(Professor Leck) I think it would do both, my Lord. On the one hand it should be open to receive bids from investigators in regional groups, but on the other hand it should be defining its own priorities and inviting tenders for its own ideas for work.

Chairman

1420. Would you envisage this body to some extent meeting your criticism that it is difficult to get support for longer term research, and therefore to have established teams?

(Professor Miller) Absolutely critically so. I think the present funding arrangements militate very strongly against long term strategic research, because the general policy of most funding bodies is that they fund for three year projects or less—one year, two years, three years at the most.

Lord Perry of Walton

1421. Would you make this body a management body, or would it be a body of people drawn from the academic world of community medicine?

(Professor Miller) I think both. This is the point of interaction.

(Professor Walker) It almost requires two tiers. It requires a forum I think, my Lord, in which needs can be appropriately expressed and an executive management body both to commission research and to demonstrate a willingness to accept bids for research from those concerned. It seems to some of us that the biggest problem is the one that has been referred to earlier, namely the relationship between research and Health Service policy, and one wonders whether there is much connection between the two. Yet there are countries where I believe this has been approached in a much more workmanlike manner. I am thinking, for example, of Norway, where some interesting work was done four or five years ago, and where as a result the researchers seem to be remarkably successful in persuading the Norwegian Ministry of Health that because of the impending wave of demand from geriatric patients, conventional higher technology acute services must be arrested and community care for the elderly became the priority, and it seems to me we go on having priorities which are perpetually stepped over by some leap-frogging new technology.

Chairman

1422. This would include such studies on whether our community care could be extended and thereby relieve hospital capacity, and that sort of thing, would it?

(Professor Walker) Exactly. Taking general practice as an example, I think it was Dr. Loudon of Oxford who said "It isn't patients who use hospitals, it is general practitioners", and yet we have done remarkably little to look at the reasons for the wide range of referral rates for one practitioner versus another; and at the wide range of prescribing rates, etc, and to come back to the point that Lord Perry touched upon, because general practice is still very much an entrepreneurial service and general practitioners are rugged individualists, they do resent external audit, whereas they are becoming more willing, as it were, to accept peer review. I think this is one of the greatest arguments in favour of developing research expertise within general practice so that this can be seen as a collaborative effort, and not one imposed from outside.

1423. Would you say any of this work was suitable for funding from sources other than public funds?

(Professor Walker) We find it very difficult, because it is seen usually as a matter for the professions themselves. It is not, as it were, seeking the cure for cancer, or how to prevent heart disease. It is how to make doctors and their colleagues behave in a slightly different way.

1424. I was thinking of the regional hospitals. They have a certain amount of endowments funds at their disposal and I would have questioned whether a suitable area for the use of those funds would be to direct them towards improving community care and therefore they would be very much within the terms of those endowments?

(Professor Walker) This is true, but it very much depends upon the Committee. For example, I have been trying to persuade my regional research committee, of which I was a member for some time, that doctors who have just finished vocational training for general practice and who in any hospital based career would have entered the registrar grade should be as eligible to apply for a regional registrarship as a doctor going into medicine or surgery, and sadly I have been unsuccessful. There is this very clear separation.

Chairman] I envisage a certain amount of difficulty here, because bearing in mind the desire of the Government to keep down public expenditure, etc., they could well say to the regions "Yes, fine, you get on with that, very good idea; you have got your own funds, and if it is worthwhile, spend your own funds on it".

Lord Kearton

1425. Does this not come down to general appreciation? Politicians react to public opinion. If the papers are full of the fact that wards are closing, there are no nurses, operations have got long waiting lists, etc., then that is all they see. The considerations which Professor Loudon made out very clearly do not really come to their attention because they are not publicised in the papers at all. If you want to further your aims, should you not take steps to get more coverage in the popular press? I agree entirely with you, but you need to think about the means by which you can bring about the political atmosphere in which you could move forward.

(Professor Walker) I think we would probably accept that we are not the best publicists for our own cause!

Lord Kearton] Professional people always think it is undignified.

Lord Hunter of Newington

1426. What would be the future of the research registrar? Supposing there were six in one of the regions. What would be their futures?

(Professor Walker) If these were people entering general practice (and many of our current vocational trainees would love to have the opportunity to do that) they would spend one, two or possibly three years as a registrar or research fellow. They would achieve a doctorate by thesis. They could then enter either an academic department, should there be a vacancy, or they could go into service practice, and, we hope with enthusiasm for research, spread the gospel. At the moment it is not

[Lord Hunter of Newington *Contd*]

possible, and again this is one reason why practitioners who wish to do research have great difficulty in attracting funds because they have not had the experience of writing the protocol.

1427. Are there not substantial numbers of people applying for general practitioner posts at the present time and not getting them?

(Professor Walker) Yes, but many of them in fact are willing to take the risk of losing a career post so that they can undertake some research.

1428. This has not been the experience over consultant posts in the specialities of the Health Service. People have been unwilling to step off the ladder and take a research post because they find difficulty in getting on to the ladder again, is that not so?

(Professor Walker) That is true.

(Professor Howie) The Chief Scientist in Scotland has supported three one-year research fellowships in general practice for the last four years and the schemes have been successful. We have had quite a lot of bright people who have done useful research but unfortunately they have been looking for jobs before they are six months into their job. I think if we are going to promote research fellowship in a useful way it has to be two or three year periods of time; one year is obviously not long enough.

Chairman

1429. Could I draw you a little bit on my previous question as to why this area is not attracting more private funds, endowment funds?

(Professor Howie) If you include an organisation like Nuffield as being private funds, Nuffield have been very supportive of primary care research, so I think some of the charitable bodies are prepared to do it. But they, of course, tend to support disease-centred research on the whole. The Chest, Stroke and Heart Association is interested in cardio-vascular disease and respiratory illness—the Cancer Research Campaign similarly. What we are tending to look at is groups of interests and groups of clients that do not have a strong public emotive appeal for funds.

(Professor Miller) I think the other thing in regard to health services research as distinct from specific disease-oriented research is that there is tendency to regard the research into Health Service provision as being a matter for the Health Service and I think ----

1430. I can see that argument, but I can also see an argument that they could say it is a community interest and therefore endowment funds could very well be a source of support.

(Professor Miller) Let me say straight away I do not disagree with you, my Lord, and indeed I would say that there are already quite a number of projects which are supported by endowment funds and, indeed, in my own district our trustees are supporting a very considerable amount of Health Service research. I am not saying we should not do this, I am not saying it is not done; but I doubt very much whether there is a sufficient amount of interest and of resource available there to meet the kind of need we are suggesting exists, particularly the need for continuity. Voluntary funding tends to be for short-term projects, or bridging. They do not have sufficient sources for long-term research or for large teams.

1431. The trouble is that over the last twenty years we have been rather conditioned to the fact that government should do everything. If you go to North America, for instance, as a number of us have done, you find a very strong community approach. It is not a matter of going to Washington to get help, they would say "Help yourself", and they are quite successful.

(Professor Leck) We are talking about the National Health Service which is itself publicly funded and should feel an obligation to ensure that it is getting value for money with the money it spends. I think the view we are taking is that the kind of spending on health services research we are arguing for would be an investment by the Health Service to ensure that it itself was getting value for money.

Baroness Lockwood

1432. There are one or two matters I want to raise, but on this last point I wonder if you feel research in this field would in due course be quantifiable. Then you might be able to point to some savings that had been made in the health services and would have a very strong claim for that to be used for the further improvement of your units. But I want just to question you a little bit more on the career structure which I think Professor Miller in his introduction said was important. You talked about the career structure for the medical researchers, the possibility of having registrars' posts and even the possibility of fellowships for general practitioners. I would assume when you are talking about general practitioners, and from what you have said, that you do envisage a situation where a person can go into general practice and then can take a research fellowship and then can go back, or maybe do the two things part-time, because again I think it was when we went up to Scotland that some concern was expressed to us that some of the very brightest students were now going straight into general practice and not doing research. Maybe this would be an opportunity to enable them to do both. But what about the career structure for the other people in the team that you have mentioned—the economists, the behavioural scientists, the psychologists and so on? They could not go up the registrar ladder. How would you accommodate their careers?

(Professor Miller) I think this is something which really has not been addressed adequately by any manner of means, and I am glad you have raised this. Lord Hunter asked earlier was there the methodology to do the work. I think there is generally speaking, but what there is not is a

[Baroness Lockwood *Contd*]

sufficient number of trained people who have sufficient experience in applying to their particular discipline health services problems, and I am now talking not about the medical people but the non-medical contributors. There are far too few opportunities for them to move up the academic ladder within the health field. If they wish to advance up their own professional ladder they tend to have to move away from the Health Service and into their own home discipline, as it were, in the academic department of sociology or social administration or economics or statistics or whatever it may be. There are a mere handful of senior academics in statistics, behavioural science and so on working in career posts in the Health Service research units, and even those are mostly supported by the Research Councils or at one or two DHSS units in academic departments.

Lord Rea

1433. Would this problem be helped by the setting up of the proposed research authority that you have suggested which might give a longer term view to some units so that these people could stay?

(Professor Miller) Exactly, so that they could find a career ladder within health services research and not need to desert health services research for their own advancement. The problem about this situation, of course, is that it means that a great deal of health services research is either being done by people who do not really have the necessary training in appropriate disciplines or it is done on an *ad hoc* basis by relatively inexperienced people who are still at junior level in their careers and really do not have the necessary background or the experience to work on their own. This is bound to reflect on the quality of the research.

1434. They may be replaced by further junior people because they give up and go back to their home discipline.

(Professor Miller) Exactly. So the expertise and experience they have gained becomes wasted in a sense, wasted to the Health Service.

Lord Perry of Walton

1435. Would you welcome in parallel with the development of your own academic departments a National Health Service unit that was permanently staffed with people who could be sent out to do what I call management information research when management needs such information. It seems to me that would be a possible way of solving one of your problems.

(Professor Walker) It is a difficult question because it implies that there is research for research's sake and there is research for the purposes of management, and I think we have got again to distinguish the management function from the clinical management function. One would hope that at least a sufficient atmosphere of trust would ultimately be built up so that these various functions would be blurred.

Chairman

1436. Because there is some complaint somewhere I think in your paper about the amount of paper work that has already been accumulated in the Health Service today as compared with what it was 20 years ago. This is always the danger, is it not? I am afraid time is marching on. Have we covered all the points? Was there anything more you wanted to say about the right to publish, or did you say in your opening remarks all you wanted to say on that particular topic?

(Professor Walker) I think both groups were extremely apprehensive about any restriction on the right to publish in properly refereed journals. We hope the results of the work would stand on their own and any policy decisions would then be implemented.

1437. There is a new form of contract which has come out, is there not, which gives the Secretary of State the right to refuse publication?

(Professor Leck) I think we all share apprehension of this very strongly.

(Professor Miller) Yes, very strongly, and I think our unease is not only because of our own position. Our unease is because we feel that this will not serve the public interest if in fact research is undertaken and published with any suspicion, justified or not, that this may have been subject to some kind of censorship, if you like, by the Secretary of State.

1438. The only thing is I wonder, when you come to Health Service research, the research may be a little uncomplimentary to certain people involved, and it may not be in the interests of maintaining confidence in Health Service research to think that unfavourable reports are going to be unduly publicised. It may work the other way.

(Professor Miller) I can see that it may be uncomfortable, my Lord. I hope the discomfort would not be thought to be a good reason to withhold publication.

1439. I would not personally worry about it being uncomfortable. What would worry me is if it undermined the confidence people had in cooperation with the Health Service research and people saying "I am not having anything to do with it. I am not having these people around".

(Professor Miller) I think provided confidentiality relating to particular people and particularly patients is adequately preserved, then I find it difficult to imagine many situations in which it could undermine confidence in the Health Service itself.

1440. Well, there was a case mentioned in the States, for instance, of the wide differentiation between the results of surgery between different hospitals which I could imagine would create rather red faces in certain places!

(Professor Walker) But surely this is what we are about? I would hate to be a patient in the less satisfactory of those two groups!

[Chairman *Contd*]

1441. So you are all for publication?

(Professor Walker) Even if the information was only used by the researchers, it would be of some value.

(Professor Howie) I think we are unhappy about the idea that it should be the Government making that decision.

Lord Kearton

1442. There is a related point here, which is that individual patients' interest is not necessarily in the community's interest. We have, for instance, a phrase in a recent communication to us which reads as follows: "The form of research which is now attracting increasing resources with diminishing returns is the intensive care of humans in the extremes of life, neonatal and geriatric." Is that the sort of thing that your new institute would gradually form a view on and publish it?

(Professor Walker) It would hopefully add information to the debate. I think it is an extremely difficult, ethical debate but it is one which ought to be based on research findings and not beliefs.

1443. But would you accept, taking it to its logical conclusion, that somebody is going to be involved in ethical decisions based on your findings, even if you do not make the ethical decisions?

(Professor Walker) Yes.

Chairman] I am afraid time has run out on us. Thank you very much for coming this afternoon and giving us such useful information. We are very grateful to you indeed.

Memorandum by the Association of Clinical Professors of Medicine

1. Introduction: membership and aims of the Association

1.1 The Association of Clinical Professors of Medicine was founded in 1970 and has some 150 members who hold Chairs in departments of Medicine or its allied specialities (for example cardiology, chest disease, gastroenterology, etc). All medical department heads are members, and so are most of those holding personal chairs. In addition to carrying out medical research and teaching, almost all our members have honorary Health Service contracts and carry out clinical duties in National Health Service hospitals. Many of our members provide specialist clinical services in their areas of research interest and therefore fulfil an essential service role in teaching hospitals. In addition, our members serve in an advisory capacity on many Government bodies (for example the drug regulatory committees and specialist advisory committees of the DHSS). Our members also serve as advisors and referees for bodies concerned with medical research, such as the Medical Research Council and medical charitable foundations. We are therefore concerned with medical research at every level from basic laboratory investigations of disease to assessment of new models of diagnosis and treatment, and our members are involved in the broadest sense in medical research both as applied to the individual patient and to populations.

1.2 We therefore appreciate being able to give evidence to the House of Lords Sub-Committee II (of the Select Committee on Science and Technology), chaired by Lord Nelson. We hold two well-attended meetings of our Association each year, and remain in close correspondence with our members. In the last five years or so we have repeatedly discussed medical research at out meetings, feeling increasing alarm at the speed at which our country's medical research prestige and achievements have been run down. As in other scientific fields, it takes years to build up effective medical research teams and units, but they can be destroyed or dispersed almost overnight.

2. Clinical Research Needs and Sources of Funds

2.1 Good research in the medical field depends first on having first-class scientists and good projects. These we have until now had in abundance, though we are now losing more and more good people abroad. The reason is that medical research depends to a unique extent on two separate Exchequer-funded organisations—the DES (through the University Grants Committee allocations to universities) and the DHSS (though its NHS allocations to hospitals, especially teaching hospitals)—and both organisations have been relentlessly run down, in real terms. All medical research, except for a relatively small amount carried on outside universities (by the MRC and some other bodies) depends totally on adequate facilities being available from DES and DHSS sources. Although total NHS funding has been increasing slightly in real terms, the demands of an ageing population for increasingly effective treatments in the last five years have led to a substantial reduction in the monies available to help or underpin medical research. University funding has of course been steadily cut during the same period, in real terms. Without these basic provisions (for UGC-funded departments and NHS facilities and support staff) the research monies available from the Medical Research Council (MRC) (about £135 million pa this year) and from the medical charitable foundations (approaching the same figure) cannot be used effectively; and even the applied research supported by the pharmaceutical industry is increasingly going abroad, mainly through lack of adequate British university facilities. In real terms the MRC budget has fallen from £101,700,000 in 1981–82 to £99,700,000 in 1985–86 ("Crisis in Research" publ. by the Office of Health Economics, of the Association of the British Pharmaceutical Industry). In view of the rapidly increasing costs of research materials and equipment, and pay awards during this period, this actual fall in funding of the MRC and of the Universities is catastrophic, with many highly graded projects remaining unfunded.

2.2 We therefore cannot simply confine ourselves to answering just the specific questions posed to use by your Clerk, and we would prefer to begin by considering some general headings.

3. THE STATE OF ACADEMIC MEDICINE: the current problems

3.1 Our present demoralisation reflects our concern about the current value placed upon research and development in this country (for example see the Report of the House of Lords Select Committee on Civil Research and Development). However, it also reflects the progressive weakening of academic clinical departments over the last few years. This has resulted inevitably in a reduction in research activity and has also substantially affected the pattern of research carried out by our members. Whatever targets are set for medical research these can only be achieved by suitably talented and motivated individuals who have been encouraged to participate in medical research by exposure to vigorous and productive research groups. This encouragement is required at undergraduate level and at postgraduate level when the qualified doctor is looking for career opportunities.

3.2 Departments of Medicine and of other clinical specialities have suffered in comparison with other science departments in universities for the following reasons:

3.2.1 Academic departments have to compete for staff with the National Health Service. There are substantial disadvantages for doctors in entering the University career structure. With the university cutbacks the chances of securing a senior position are not good. Parity of salary between Health Service and academic clinical posts has so far been maintained through the most intense and continuing lobbying of ministers and MP's by our Association and other bodies; but it remains under threat. We view with the utmost despair having to fight this particular battle annually—and a new NHS payaward has just been announced—especially since in 1985 we received the promise of future parity from Sir Keith Joseph (then Secretary of State for the DES). ''Parity'' does not consist of the delayed implementation, after prolonged protest last year, of a pay award agreed months before for NHS clinical staff.

Most academic posts have not allowed private practice, though this is now (within limits) allowed to all Health Service consultants. Conditions of service for University Staff are in general inferior to those for Health Service staff—notably in respect of removal expenses when changing jobs. Reimbursement is adequate for health service appointments, but is quite derisory for academic ones.

3.2.2 Most universities have met the current financial constraints by freezing vacated posts. This preferentially affects departments with a high turnover of academic staff—and clearly this specially disadvantages the best departments, whose juniors have the greatest success in getting good jobs elsewhere. Junior academic staff in medicine usually remain in post for a limited period (on average three to four years) before moving, often to a Health Service post. Inevitably therefore clinical departments have suffered to a greater extent than other university non-clinical departments or other faculties, where lecturer posts are held for a longer period.

3.2.3 Training requirements for hospital specialist posts have become increasingly rigorous. Whilst a year or two in research is encouraged, training guidelines do not cater for the individual who wishes to pursue a full-time career in medical research. An individual who does undertake a lengthy period of research may therefore be penalised, have to forego the prospect of a career in the National Health Service, and eventually be forced to emigrate, as many of our best clinical scientists are doing at present.

3.2.4 The new proposals for restructuring of junior health posts in NHS hospitals (report of the Hayhoe Committee ''Achieving a Balance'') is a further threat to medical research and recruitment, since if the proposals are implemented it will no longer be possible for junior doctors in most research posts to obtain Honorary Registrar contracts during their tenure of a research post. This will have an effect at a more junior level similar to that already beginning to affect recruitment to medical research through the cutbacks in Senior Registrar-grade posts. These are being applied at present through the Joint Planning Advisory Committees which have been set up centrally and regionally, by the DHSS, to limit the numbers of senior trainees. The opportunities for trainees consultants and academic clinical staff to spend a few years in really worthwhile clinical research are diminishing year by year.

3.2.5 The reduction in academic clinical staff as a result of the UGC cutbacks has had a distorting effect upon the activities of University Departments. Our Association surveyed its members annually in the years 1981 to 1984. Over this period 14.7 per cent of UGC-funded academic posts were lost. A similar study conducted by the British Medical Association of all clinical academic posts painted an even worse picture, with the loss of over 20 per cent of posts (224 posts up to April 1986) and a substantial decline in technical and support staff (165 posts). The published University Statistical Record shows that full-time clinical medical academic staff were 2,165 in 1979–80, and in the following years 2,162, 1,843, and (in 1984) 1,728.

3.2.6 Since the National Health Service work carried out by academic departments has to be maintained, any reduction in staffing inevitably leads to a reduction in research activity. This has made academic posts correspondingly less attractive. The net result has been a fall in recruitment to academic posts. In our survey, for instance, a lecturer post in medicine only attracted about a third as many applicants as a National Health Service post of equivalent status:

	1980	1981	1982	1983
Applicants for Lecturer or equivalent academic post	5.2	4.9	5.2	7.8
Applicants for equivalent NHS post	15.2	15.3	14.5	13.3

The impact of the weakness of many academic clinical departments and the diversion of some of the most talented and academically highly qualified individuals into Health Service posts has resulted in a reduction in the quality of academic research carried out by clinical departments. This is obviously difficult to quantify, although it has been a recurrent theme in surveys of our membership. It is generally agreed for instance that the contribution of workers from the United Kingdom to international meetings of clinical scientists has declined markedly over the past five years.

4. RESEARCH PRIORITIES

4.1 The combination of all these problems in funding and in recruitment of staff has important consequences for priorities in medical research. The two alternative sources of funding for research, apart from Government funds which are channelled either through the UGC or the MRC, are industry and the medical charities. Industry relies heavily upon clinical departments for trials of new pharmaceutical products. Several of our members have pointed out that this work is now assuming a dominant place in their departmental activities. Whilst closer liaison with industry and trials of new products are clearly valuable activities, there are dangers when disproportionate time and effort are devoted to them. Inevitably there is less research upon diagnosis and treatment which is not based upon medication. With rate exceptions pharmaceutical companies do not significantly support basic research in university departments.

4.2 The medical charities (such as British Heart Foundation, the Imperical Cancer Research Fund, the Arthritis and Rheumatism Council) are major sources of support for clinical research in this country. They necessarily have limitations. Most (the Wellcome Foundation being the most notable exception) restrict their support to particular organs or particular diseases. Many of the major developments in molecular biology and immunology have not been specifically 'organ-orientated'. Therefore research in such areas can seldom attract funding by charitable bodies. Reliance upon essentially ''disease-'' or ''organ-related'' charities and the pharmaceutical industry has unquestionably changed the pattern of activity in academic departments of medicine and has resulted in high priority being given to research which these departments would not normally choose, which are not necessarily the most promising academically, and which are not necessarily in the best interests of the Health Service. There is much less research activity by our members in fields such as preventive medicine, epidemiology, some forms of psychiatric disease, and in less common but frequently disabling diseases in which there is less public interest. There is also less basic research which at present has no obvious disease applications in the favoured fields.

4.3 It is true to say nevertheless that industry and the charities have to some extent limited the damage produced by the shortfall in UGC funds. Thus despite the decline in UGC-funded academic staff, in the House of Lords debate on the Report of the Select Committee (November 1986) Baroness Trumpington pointed to a net *increase* of 7.5 per cent in full-time clinical academic staff between 1981 and 1984.

4.4 The help is more apparent than real. The discrepancy is due to (1) short-term contracts for honorary academic staff employed on money provided by the chartities or by the pharmaceutical industry, and (2) some academic clinical staff being funded by the National Health Service. We must point out that academic staff in category (1) cannot be equated in any way with UGC-funded staff. The majority of these extra staff are only funded on short-term grants of two or three years and do not therefore help improve the long-term career prospects for academic staff, which are our greatest concern and which are one of the major obstacles to recruitment. Furthermore, the extra staff funded by the pharmaceutical industry are working for the most part on specifically commissioned projects, especially those concerned with the evaluation of new drug therapies. In the great majority of cases none of these people are in a position to make substantial contributions to fundamental clinical or basic biological research.

The doctors in category (2) (see above) continue doing predominantly the same NHS service work that they were doing before their contracts were transferred from the NHS to the University. The designation of such people as clinical Lecturers and Senior Lecturers is usually made for administrative convenience, or in recognition of their commitment to full-time practice, excluding private work. They obviously do not provide any new more extra cadre of clinical academic research workers.

4.5 The failure of UGC funds to allow departments to employ an adequate critical mass of academic staff has more long-term effects. Attempts by national bodies to establish research in particular areas which are regarded as important often founder because of the lack of talented and qualified staff with interests in that area. The failure of the Rothschild intiative a few years ago—to redirect government funds towards applied "relevant" research—provides a general example. To cite two specific examples: the volume of research in this country into the medical problems of ageing and upon the association between diet and disease is disproportionately small compared with the relative importance of these topics for the National Health Service. The priorities problem is mainly that of inadequate critical mass in academic clinical departments. *This requires a long term constructive policy to resolve,* and short term attempts at funding by Government or medical charities are unlikely to be successful. The present substantial release of government funds into research into AIDS would be quite pointless had the background to this applied research not been provided by many years of basic research work making extensive use of our new understanding of molecular genetics, viral structure and immunology.

4.6 The relative weakness of University clinical departments inevitably is reflected in a corresponding weakness in applications for project grant support to such bodies as the MRC. The poor success of many clinical departments has led some heads to conclude that the MRC is biased in favour of basic rather than clinical research (see for instance correspondence in British Medical Journal 1986, *292*: 133, 200 and 338). The response from the MRC (British Medical Journal 1986, *292*: 200) that lack of success reflects lack of scientific quality also contains some substance. The Clinical Research Centre Committee of the MRC chaired by Sir Michael Stoker echoed a similar sentiment "It was put to us that the financial provision in teaching hospitals has been cut back to the minimum necessary to support patient care and teaching and that this minimum is less than that necessary for support of adequate clinical research. In these circumstances it requires a considerable degree of commitment to write applications for grants and to recruit and hold together a research team". This concern has also been reflected in the difficulties in obtaining suitably qualified individuals as Directors of MRC Clinical Units, and this has led to the closure of many of these units in recent years.

4.7 For these reasons it seems clear that the maintenance of relevant and high standard clinical research in the United Kingdom requires as a first essential the *adequate funding of clinical departments* which provide the staff and the expertise for the carrying out of this research. Not all members of these departments need be clinically qualified. There is a major role for non-medically qualified scientists in such departments to provide their own particular expertise. Such posts have been particularly vulerable to the UGC cutbacks because they are not directly related to the training of medical students, which had to take priority over research.

4.8 From the above analysis it has to be concluded that even were additional funds to be made available to such bodies as the MRC this would prove ineffective unless the primary need for strong university departments had first been met. The present situation of clinical departments dictates priorites which are not necesarily those which serve the best interests of the National Health Service, neither is there any reason to believe that the present circumstances of clinical departments will result in research related to the changing incidence of disease, change in population structure or new scientific techniques.

5. The Role of Clinical Academic Departments

5.1 Research in medicine has as its most immediate objective the improvement of health. This is the broadest of remits: it includes epidemiological investigation of disease in the population, controlled trials of the effectiveness of different forms of treatment and studies upon organs, tissues, cells and molecular processes. Whilst clinical medicine may yield new phenomena that throw light on the nature of physiological and biochemical systems, this is not the primary object of the exercise. This is not always fully appreciated. A statement in the MRC "Stoker Report" (on the future of the MRC's Clinical Research Centre) reads "Research in common diseases did not accord with the way scientific knowledge has developed over the past 15 years". This seems to carry the implication that the disease studied is of secondary importance to the scientific information gained. The relationship between basic sciences and clinical science requires more critical consideration. Comroe's analysis is often quoted in this context (see Science, 1976, *192*: 105–111). Comroe demonstrated that 41 per cent of fundamental published papers which resulted ultimately in advances in treating heart and arterial disease were not goal-orientated (that is were basic in nature). However, by the same token 59 per cent of advances were directly attributable to clinical research. This must be relevant when resources are restricted.

5.2 Outstanding advances have been made in understanding the primarily genetic disorders such as the haemoglobinopathies or muscular dystrophies, as a result of developments in molecular biology. In these conditions definition of the clinical expression of the abnormal genetic defect is straightforward and most of the research skills have been concerned with the development of laboratory techniques. Important as some of these disorders are, the major burden of disease in Western society is multifactorial, for example diabetes, cerebrovascular disease, coronary heart disease, hypertension and ageing. There is unquestionably a genetic element in all these disorders and molecular biological techniques are already being applied, for instance, to diabetes, coronary heart disease and hypertension. Simply because these diseases are multifactorial, however, the identification of a genetic component is much more complex, requiring careful definition and characterisation of the disease in particular patients under investigation. This demands sophistication at both the clinical and biochemical levels. It is not simply a matter of taking a disease, obtaining an appropriate specimen, finding an abnormality common to all sufferers from that disease and concluding that its cause has been unravelled. With coronary heart disease or hypertension it seems likely that some sufferers will have a specific biochemical abnormality and some will not. Other individuals without the disorder may have the same abnormality. The expression of which has been modified by environmental factors. When an abnormality has been observed that is loosely associated with the disorder interpretation therefore depends upon careful study of individuals with and without the abnormality. It follows that in dealing with these disorders there is a need for *specifically clinical* research in defining the disorder and the confounding factors. In the absence of trained clinical scientists research in these important areas will be restricted and open to grave misdirection.

5.3 Thus the part played by basic laboratory research within clinical departments is important, but it is only one component of medical research. This spans a much broader spectrum than that which seems to have been accepted by the Stoker Committee when its report stated that ''In the future for clinicians to develop as effective research workers, it will be essential that they are not only first class doctors but also that they have had training in research in basic medical science''. To take a few examples of work which has had a major impact upon public health and medical practice we would cite studies demonstrating a link between smoking and certain respiratory cardiovascular diseases; and multi-centre controlled trials to determine the best treatment of tuberculosis, hypertension and the leukaemias. These trials were funded by the MRC but depended heavily upon the skills of clinical university staff.

5.4 The pharmaceutical industry currently has overseas sales of more than £1,400,000,000 pa, and earned a net trade surplus of £835,000,000 in 1985, making it our largest industrial export earner. Research in this country which has had a major impact upon the profitability of the British pharmaceutical industry has resulted from close collaboration between university departments and industry. For instance the development of the ''beta-blocker'' class of drugs used in treating angina and high blood pressure, and the ''H2-blocker'' class of drugs used for treating peptic ulcer were of British origin and first introduced and tested in this country. These continue to be an important source of export earnings. The exciting new developments in biochemistry and physiology create increasing demands upon staff who can appreciate the potential of such developments and also have the skills to put them to the test scientifically in patients. The need for clinical academics will grow as we try to grapple with multifactorial disorders such as cardiovascular disease, diabetes and ageing. The constraints imposed by current financial stringency in the unversities will inevitably result in these priority areas for medical research not receiving the scientific attention they deserve. The potential loss of export earnings needs little further emphasis.

6. SPECIFIC ANSWERS TO QUESTIONS POSED FOR THE COMMITTEE:

6.1	How are prioties set? How do these reflect of NHS and health needs of the Nation?	See section 4, above.
6.2	Is present balance between diff. branches of research right? What programs could be cut back to allow those of higher priority to expand? What programs need more resources?	No: but it is difficult to change. Big factor is subject of research, for example heart disease and cancer are relatively well funded by the charities, whereas kidney, skin, brain, chest, gut, gland and rheumatic diseases are much less well-funded. MRC keeps a ruthless eye on poor projects, which are wound up when they cease being productive. All of them do.
6.3	Are priorties in med. res. adapting to changes dis. incidence, population structures and new technology?	Yes: AIDS is a good example, but there are many others, for example the new technology of molecular biology is being rapidly applied in very many fields already, especially in pre-natal diagnosis.

6.4	How are priorities in med. res. affected by the institutions through which res. is funded? How does public/commercial/charity distribution of funding affect priorities?	Difficult to give universally applicable answer. Many med. schools lack enough basic science backup to tackle any but mundane applied clinical research. Many med. schools nowadays find it very difficult to provide the administration and infrastructure to support any except lavishly funded commercial projects.
6.5	Are the results of research adequately disseminated?	Yes: dissemination systems are now very efficient indeed, and becoming more so with computer technology.
6.6	How is unnecessary duplication of research effort avoided?	Long term: by publication of results in journals of wide circulation. In the shorter term: by personal contact, especially at medical research conferences, especially international ones (this is one of the main functions of conferences). Nowadays this is really a non-problem.
6.7	Is res. reflected as it should be in actual improvements in patient care or health education? If not, why not?	Yes: but many doctors are conservative, and it takes time to persuade them of merit of new therapies and techniques. Clinical academic doctors can give a lead here. We can give innumerable examples of how recent clinical and fundamental res. has influenced patient care.
6.8	What changes in priorities in training med. researchers are needed?	Not much change in *priorities of training* is needed: what is needed is the *perception of decent career opportunities* ahead. At present much clin. res. is done simply to help present a good curriculum vitae without any dedicated long-term commitment to research at all.
6.9	Should any specific changes in organisation or funding be made so as to improve the quantity or application of research?	In organisation probably not: resource diversity through MRC, Wellcome, other charities and drug firms keeps flexibility. We oppose creation of any large central funding agency as unduly rigid. Funding of research recently has felt like the death of a thousand cuts, administered in more or less equal measure by the UGC, the MRC and the NHS, all of whom have bit by bit been squeezed of adequate resources. None can bail out any other.

7. General Remarks: special future needs

7.1 In general terms it is clear that huge strides are currently being made in applications of molecular biology and immunology, and it is important to help all medical schools and research establishments to establish and maintain first class expertise in these areas, which impinge on an enormous variety of clinical problems. At present it is utterly impossible for medical schools to make the financial commitments that such establishments necessarily involve; yet without them British clinical research will fall lamentably and irrevocably behind that of other developed countries. An extension of local and national new academic initiatives and ''new blood'' schemes in medical schools probably represents the way in which the injection of new money would bring the greatest possible return in improvement of medical research, and do most to reverse the present horrifying stagnation and catastrophic loss of national prestige. Even a little extra money allocated in this way would make a tremendous difference.

7.2 The impoverished state of the NHS is also a bar to academic developments. Sometimes funds have been offered from an outside charitable source, or even made available and earmarked from an exiguous university budget, for a much needed new development involving the creation of a new academic clinical post—only for the donors or potential donors to find that the NHS side refuses to consider giving the appropriate Honorary Consultant or Senior Registrar contract, for fear that this might lead to an increase in new clinical work being done within the Health District, with consequent impoverishment of the regular clinical services that the District was already providing. This situation might appear absolutely unbelievable, yet we could quote several actual examples.

7.3 The Stoker Committee set up by the MRC recommended that a National Centre for Medical Research should be established, possibly by the merger of the Royal Postgraduate Medical School at Hammersmith and the Clinical Research Centre of the MRC at Northwick Park, on some site yet to be decided. This would have the exciting prospect of revitalising clinical research, allowing large enough groups of research workers to concentrate on the difficult and important problems, and also giving training possibilities comparable to those available at the National Institutes of Health in the USA. It seems likely that after the option appraisals have been made that the MRC will make such a recommendation. We believe that the necessary capital to create such a centre would not only contribute to research training and research productivity, but also enormously enhance the prestige of British medical research throughout the world. The existing running costs of the two institutions, if available to a single national centre, would greatly increase research productivity.

8. The Views of the Medical Research Society (MRS)

8.1 The Medical Research Society was founded in 1930, and has a current membership of about 1,000. Nearly all its members are medically qualified members of university clinical departments or MRC units. Most members of the Association of Clinical Professors are members of the MRS, but the MRS membership also includes most junior clinical academic staff actively engaged in research. The meetings of this Society are predominantly scientific, but its members have on several occasions discussed the problems we mutually face in obtaining resources for clinical research. Since the members of the Association of Clinical Professors of Medicine are also the senior members of the MRS, and since Professor Dickinson is also currently Chairman of the MRS, the MRS is not proposing to make a separate submission. We can assume Lord Nelson's Committee that the Medical Research Society fully endorses the comments we have made in this submission. Its Secretary, Dr George Griffin, would be happy to join either or both of us if the House of Lords Committee wished to receive oral evidence from the MRS as well as from our Association.

April 1987

Additional Memorandum by the Association of Clinical Professors of Medicine

1. Introduction

1.1 The Association of Clinical Professors of Medicine is pleased to have been invited to contribute a further memorandum itemising and costing our specific proposals for a small number of "new blood" academic posts to revitalise clinical research in the United Kingdom. We made a general proposal in our submission; but Lord Kearton pressed us during our oral examination to quantify more exactly what would be involved.

1.2 Our feeling of despair in carrying out clinical and basic medical research, and our perception of the career difficulties and frustrations of young reseachers began in 1980. Since then cuts in university funding have bitten more and more deeply. Up to that time most of our members felt that Britain was holding its place in world medical research.

1.3 Logically, therefore, we would like to restore not the *status quo*—we are not so naive as to believe that this is possible—but rather the *research opportunities* which existed in 1980. We believe that they could be recreated by a relatively small expenditure of money.

2. Type of support needed

2.1 It is, of course, necessary to have a proper "infrastructure" for research. This is made up of people, for example technicians, computer operatives, secretaries, librarians and medical artists, and things, for example, well-equipped laboratories, computer hardware and software, libraries, and photographic equipment.

2.2 However, the increasing support of research by industry and the medical charities has helped to keep up a reasonable level of funding for technical help. Scarce secretarial help is being used much more efficiently with the advent of word processors. Increasing charges to industrial customers of university medical departments for adminstrative overheads is helping to support other parts of the necessary infrastructure. *The yawning gap is the shortage of both medical and basic scientific career posts.*

3. How many career posts are needed? What type should they be?

3.1 We quoted figures from various sources in our written evidence (para 3.2.5). In the period from 1979–80 to 1983–84 full-time clinical medical academic staff went successively from 2,165 to 2,162, 1,843, 1,728. We have now obtained figures from the UGC for the 3 succeeding years which are 1,811, 1,728, and finally, in 1986–87, 1,652. In all, therefore, 513 posts, almost 25 per cent of all posts, have been lost, with a concomitant loss of comparable numbers of non-clinical basic scientists. We mentioned previously that some of the shortfall has been made up by non-UGC-funded posts, but explained (in para

4.4) that the help was more apparent than real. It is not possible to get exact figures for the loss of basic scientists involved in medical research, since these are in many cases not recorded separately from other non-clinical science departments in universities, but we are all aware that the loss is proportionately comparable, though less in total numbers. It is equally damaging.

3.2 We concede that some occupants of the lost posts may not have been carrying on much productive research; but even so their support of student teaching and their contribution to clinical work greatly improved the productivity of their more research-active colleagues.

3.3 Nonetheless, we are not advocating an unrealistic return to the *status quo*. We said in our written evidence (para 7.1) that "An extension of...'new blood' schemes in medical schools probably represents the way in which the injection of new money would bring the greatest possible return in improvement of medical research..." Professor Sir David Weatherall suggested in his oral evidence (para 94 in the printed Minutes of Evidence taken on 30 April 1987) that "perhaps a couple of hundred...full-time research posts, preferably within the university departments..." were needed. He thought that Lord Kearton's estimate of about £50,000 per post was of the right order, but said that he would have needed prior notice to be more specific.

3.4 Since the Sub-Committee has very kindly invited us to be more specific we will try to be so. Weatherall's estimate was made without the information we now have. Last week we had a further meeting of our Association, and after discussion all agreed that it would be more realistic to aim to restore half of the posts lost since 1979 that is 250 full-time clinical scientists. The methods by which the previous "new blood" lecturer scheme was organised (by the MRC and the UGC jointly) should be equally suitable for organising the proposed new scheme.

3.5 If these posts were awarded competitively, as the "new blood lecturer" posts created during the short duration of that scheme were awarded, the appointees and the money would go to the best departments. This would be the way most likely to give value for money.

3.6 A further advantage of "targeting" extra research funds to specific clinical academic posts is that the scrutinising committee could give extra weight to applications for posts in those clinical areas which are not well funded by the charities, for example infectious disease, clinical immunological and metabolic disorders, mental handicap, psychogeriatrics and endocrinology.

3.7 We have given a lot of thought to the ideal grade of medical clinical scientist post to be created. We have no doubt that this must, in virtually all cases, be the Senior Lecturer grade. Such grades carry in most places Honorary Consultant status, but this is not the vital point. It is that with the present NHS career structure and manpower restrictions, the NHS central and regional committees (the so-called "JPAC's"—"Joint Planning Advisory Committees") will simply not permit Senior Registrar contracts to be given to a new cadre of clinical Lecturers. The manpower balance between training and career posts would be unduly perturbed. Furthermore the whole emphasis of clinical work in hospitals is moving, since the "Short Report", towards a clinical service provided more by consultants and less by junior doctors.

3.6 In respect of non-medical basic scientists supporting clinical research, we would suggest that a ratio of one such individual to every two or three clinical medical scientists would be an appropriate ratio, and would lead to departments being able to tackle much more fundamental problems than the majority of unaided clinical scientists are equipped to tackle without some basic science backup. Thus we would propose the creation of 100 "new-blood" posts at non-clinical Lecturer or Senior Lecturer level, the awards also being made competitively between institutions and departments in institutions. In some cases an application might be envisaged from an institution making a good case for both a clinical and a basic scientists in a single department. In others either one or the other would be appropriate to fill the gap in a research team. In view of the promotion difficulties and currently somewhat dismal promotion prospects for such individuals, funding at a level of, say, the lowest point on the Senior Lecturer scale would allow the appointment of non-clinical Lecturers, some of whom would in due time be promoted to Senior Lecturer and above.

4. COSTS OF THE PROPOSALS

4.1 At current rates, the cost to an institution of a Clinical Senior Lecturer at the mid-point of his scale (still tied, though with increasing difficulty of negotiation, to the NHS Consultant scale) is approximately £37,000 pa when superannuation and NHS National Insurance costs are taken into account, (assuming about half on NHS and half on USS superannuation schemes), and assuming about 30 per cent are in receipt of London allowance.

Therefore, 250 posts at £37,000 pa would cost £9,250,000 pa.

4.2 The British Heart Foundation awards support costs to individual Clinical Professors and Senior Lecturers of £27,000 pa, this sum reflecting the costs of consumables and technical support of various kinds. This is necessary and reasonable for most people involved in research in a field which requires expensive equipment and resources. For some types of research it is more than would be needed, though in others it would be less. A reasonable average estimate we would suggest is £20,000 pa.

Therefore, 250 support costs at £20,000 pa would be £5,000,000 pa.

4.3 At current rates, similar costs for a Senior non-clinical Lecturer at the lowest point of the Senior Lecturer scale is £24,500 pa, making similar assumptions about superannuation, national insurance, and London weighting.

Therefore, 100 posts at £24,500 pa would cost £2,450,000 pa.

4.4 For non-clinical scientists, whose work is likely to be in the laboratory rather than in work closely connected with patients, we would suggest that lesser support costs of £10,000 pa would be realistic.

Therefore, 100 support costs at £10,000 pa would be £1,000,000 pa.

5. TOTAL ANNUAL COST OF OUR PROPOSALS

Salaries and superannuation:	clinical Senior Lecturers:	£ 9,250,000
	non-clinical Senior Lecturers:	£ 2,450,000
Support costs:	clinical Senior Lecturers:	£ 5,000,000
	non-clinical Senior Lecturers:	£ 1,000,000
Approximately, therefore, the total annual cost would be:		£17,700,000

6. ADMINISTRATIVE DETAILS

We suggest that all this extra money should be channelled through the UGC. For the proposed Clinical Senior Lecturers extra money would augment the UGC Cost Centre I budget for Clinical Medicine. For the proposed non-clinical posts it would best be administered, as we suggested previously, by the UGC and MRC jointly, the money being added to the total UGC budget. An alternative might be to channel the resources for non-clinical Lecturer posts through the MRC alone; but on balance, although the MRC is grossly underfunded and unable to support excellent projects (see para 2.1 of our original submission) we think that the lack of "well-found" departments with a decent critical mass of researchers is even more serious (see our previous para 4.6).

7. LONG TERM IMPLICATIONS

7.1 Since currently most medical academic departments in the country are operating in deficit, there is no way in which they could undertake, with equanimity, and probably not at all, the continuing funding of the "new blood" posts we are proposing. Therefore two commitments are needed:

7.2 The first is to ensure that future national pay awards to the new appointees will be funded in full (otherwise the drain of research support will simply be resumed).

7.3 The second is to continue the scheme beyond 5 years, by encapsulating it in an earmarked sum to the new Universities Funding Council. Clearly we could not seriously propose that any individual university or department could expect to retain the funding of a specific "new blood" appointee indefinitely if he/she was no longer productive or if the research milieu was no longer appropriate. However, if it was known that the scheme would continue, unless the state of government finances absolutely precluded it, then across the whole country schools and departments could feel optimistic about the future, and the inauguration of the scheme would be widely welcomed.

8. CONCLUSIONS

The relatively small cost (less than £18 million pa) of this modest proposal would bring enormous benefit to British medical research and to British academic prestige. Above all, these proposals would give us what we lack at present—hope for the future.

It would bring financial returns in our visible and invisible exports which would be vastly greater than its cost. The visible benefits would be chiefly in the growing export sales of the pharmaceutical industry, which (as we made clear in our oral evidence) is currently complaining about and suffering from lack of well-found university clinical medical departments. The invisible earnings would come about if our proposals reversed the flow of trained and trainee medical scientists (which is currently *away* from the United Kingdom). These are people who not only spend money here themselves, but also recommend British goods and British expertise, and buy British books and journals. The flow of medical scientists away from this country is parallelled by, *and contributes to an important degree to*, the enormous and disturbing decline in the numbers of postgraduate doctors who come to the United Kingdom not to do research, but to receive clinical postgraduate training. At the same time such people bring benefits by contributing to national health service clinical work. Unfortunately, Britain is no longer seen by many such people to be a worth-while place to train. This is not only because our National Health Service hospitals are so grossly underfunded. It is also because our medical science is now perceived at such a low ebb.

December 1987

Examination of witnesses

Professor C J Dickinson, Chairman, and Professor J D Swales, Secretary, Association of Clinical Professors of Medicine, called in and examined.

Chairman

1444. Well, gentlemen, thank you very much for coming along this afternoon. We have had some interesting discussion already. Thank you for your paper which sets the scene for us. Is there anything you would like to add to that before we start?

(Professor Dickinson) Perhaps there is one thing I might add, and that is that my colleague John Swales will be succeeding me next year as Chairman of the Association of Clinical Professors of Medicine, and also you are getting as it were double value because he has also just taken over the chairmanship of the Federal Association of Clinical Professors, which in fact had a meeting last week in which we discussed our submission extensively with them so that we can, I think, reasonably accurately represent not only the clinical professors of medicine but professors in other clinical specialities—at least in part.

1445. Thank you for drawing our attention to that. Perhaps Professor Swales might explain to us what that body exactly does.

(Professor Swales) I think that, Lord Chairman, has puzzled several of its members over the years, but it is the Federation of the Association of Clinical Professors, which is the overall body at which the officers of the various component specialist organisations (for instance professors of pathology, obstetrics and gynaecology, professors of surgery, professors of medicine, professors of anaesthetics etc) meet three or four times a year.

1446. Do you combine to fulfil the function which Lord Kearton referred to earlier on for lobbying in the interests of the profession as a whole?

(Professor Swales) I think that would not be accurate up to the present in that we have been largely concerned with internal professional matters, but I may say over the last year or two there has been increasing concern about clinical medicine and pressure from our members now is to move much more into the public domain. At the moment we are still rather an inward looking group of individuals.

1447. Would you like to give us any views of your own on how research priorities should be set?

(Professor Dickinson) That is an extraordinarily difficult question because, as I think Sir David Weatherall and many others will have made clear to you, the most successful research on the whole has been directed by enthusiasm where someone has got interested in a subject, seen the opportunities for advancing the frontiers of knowledge and has seized that opportunity. That has directed most of the really great discoveries in science and I should have thought the majority in medical science, but that is not to say that directed research is unsuccessful. It is often extremely successful but I think it is—and Professor Swales would agree—a sort of mixture really. We see important problems and, other things being equal, we much prefer to tackle an important problem than a trivial problem, but sometimes where the background knowledge to tackle the important problem is not available, we see the opportunity of tackling the smaller problem and we tackle it.

1448. This is the thing which puzzles some of us: it has been pointed out to us that the best research comes from proposals from people who have a desire and an inspiration to tackle that particular subject; but, of course, within the terms of reference of the research interests of the National Health Service, there is the other aspect of looking at areas which are not being properly covered and in some way stimulating the necessary talent to be directed to the area of need. One cannot just rely on proposls for research. There may be areas left uncovered, is that not so?

(Professor Dickinson) To some extent this is automatically done because the public is most concerned with fatal diseases and therefore heart disease and cancer get on the whole fairly well supported. Good projects in those areas are reasonably well funded and will attract a lot of research effort inevitably because there are a lot of research opportunities.

Chairman] That is all based on hindsight, is it not, whereas such research ought to be directed to foresight. With the more fundamental kind, of course, one does not precisely know where it is going to finish up. The whole molecular medicine explosion at the moment would certainly not have been foreseen twenty years ago.

Baroness Lockwood

1449. In your specific answers to questions on priorities, I think you make quite an alarming

[Baroness Lockwood *Contd*]

statement when you say it is difficult on priorities to give a universally applicable answer. "Many medical schools lack enough basic science back-up to tackle any but main line applied clinical research." Then you go on that , "Many medical schools nowadays find it very difficult to provide the administration and infrastructure to support any except lavishly funded commercial projects." In effect, you are saying at the moment in the universities there will not be opportunities there to follow curiosity-based science or research or even any reasonable research project?

(Professor Swales) Baroness Lockwood makes an extremely important point there. I think one of the problems with clinical departments who are to some extent at the workface of medicine is the very broadness of our remit. In the past probably one of the major discoveries which resulted from academic medicine in this country was the association between smoking and lung cancer and coronary artery disease. At the same time we also have some involvement, as David Weatherall told you, with molecular biology, a very broad remit indeed. Now, in a way perhaps indirectly to answer your question as to how we exactly establish important priorities, we can only deal with those when that infrastructure is there. In other words, what is required is a back-up in terms not only perhaps in some centres of molecular biology but also epidemiology and statistics. Perhaps one of the major developments is molecular biology, but I think the development which probably has more impact on health care at the moment, is the increasing sophistication of the clinical trial which has become a very professional thing indeed. It is not simply a question of giving aspirin to a certain number of individuals and seeing what happens. It is a question of very sophisticated statistics and trial design. For that you need infrastructure. You need not only clinicians but statisticians and epidemiologists to give you your advice and give guidance. This requires quite a broad infrastructure to deal with the sort of needs you are raising. I think that is one of the problems of attacking new priorities. If the people are not there you cannot attack those priorities.

Chairman

1450. What do we need to do to ensure that there is the infrastructure?

(Professor Dickinson) Many years ago Graham Bull, who alas has just died, who was Professor of Medicine in Belfast, made a study of the productivity in terms of publication output from departments of medicine in the country and related the productivity per man in the department to the number of people in the department. I am sure you have heard a great deal about the critical mass of researchers, and this is something which all of us recognise, that although just occasionally one or two people on their own can make great discoveries, most research does require, as Professor Swales indicated, a substantial size of team. What all of us have experienced in every single department in the country over the last decade or so is a gradual reduction in clinical staff but, still worse, a bigger reduction in the non-clinical scientific staff, the chemists, the statisticians, the computer people and so on. That is almost as big a problem as the reduction in clinical staff.

1451. That reduction stemming from cuts from the UGC or the MRC.

(Professor Dickinson) From the UGC and from the MRC.

(Professor Swales) Can I try and explain the impact on these non-clinical individuals in clinical departments? Simply because cutbacks occur the needs of teaching and maintaining clinical service take total priority. We cannot run a blood-pressure clinic in Leicester and say "I have just lost my lecturer, therefore I'll turn patients away": we clearly have to maintain that service as a last resort, but what we can get rid of without immediate damage is the non-medical biochemist in the department. As a result clinical departments have lost their non-medical scientific staff selectively over the last five or six years.

1452. This arose just for want of more money, did it not?

(Professor Dickinson) I am afraid it did.

1453. Just to finish on that, if you would look at it from the other point of view and say, yes, we accept that but is the money that is already there being spent as efficiently as it should be? Are the priorities right?

(Professor Dickinson) I am sure you could find inefficiencies and waste in any institution whatsoever and I am certain that medicine is no exception. I think we have had to examine every penny that we are spending in every medical school in the country and our backs, we feel, are against the wall. Neither of us use to feel, and none of our members has felt it, in the same way as we have felt it in the last few years.

Lord Kearton

1454. I thought your note was very dire in its warnings. Slightly the other way, in paragraph 7.1 you do say, talking about what help might be given, "An extension of local and national new academic initiatives"—which you do not define—"and 'new blood' schemes in medical schools probably represents the way in which the injection of new money would bring the greatest possible return in improvement of medical research, and do most to reverse the present horrifying stagnation ..." and so on. "Even a little extra money allocated in this way would make a tremendous difference." What is "even a little extra money"?

(Professor Dickinson) Needless to say, we obviously discussed this question. We have seen what answers David Weatherall gave to you. He talked about a couple of hundred clinical academic posts. The reason why we mention the "new blood" scheme is, of course, because that operated just for about three years and provided a number of clinical

[Lord Kearton *Contd*]

lecturers among other factors and those were highly competed for and, therefore, they went to the departments with the best track record. If you can give, say, £10 or £15 million to the UGC budget and ask that it should be directed to medical schools, by the time it has been divided up you hardly notice it and we might just reduce all our overdrafts, but if, on the other hand, you say "We will create 200 career posts in clinical academic medicine or academic studies, and those will be competed for with very careful peer review," that gives a completely different impact. The new blood lecturers' scheme, while it was operative, had a very great impact.

Lord Kearton] This comes down roughly to five or ten million a year, something of that order?

Baroness Lockwood

1455. But you need the back-up. If you are increasing the number of people through the new blood scheme, you are also placing greater demands on the back-up service which you say is deteriorating.

(Professor Dickinson) That is true, but if you get really good people doing good projects, they can get back-up from other sources. In my hospital we do not have any technicians whatsoever paid for by the university funds. All the technicians are paid for from grants obtained from outside bodies, from MRC, Wellcome and drug companies and so on. That is not very satisfactory, because they are all in short term grants, and there is a serious lack of career posts of non-clinical scientists to back up the clinical academic work, but at least you can make a start.

Lord Rea

1456. We heard last year, I believe, that the actual numbers of clinical staff from a Government Minister was no less—in fact it was more—than was required, and yet the structure and balance of this staff you feel is not satisfactory towards the health of clinical research. How is that?

(Professor Dickinson) Professor Swales might like to answer that because he conducted the survey of our members.

(Professor Swales) As far as staff of academic departments of medicine are concerned, we have lost about 15% of the UGC funded tenured staff since 1981. Over all clinical departments (that includes Departments of Pathology and Surgery who have probably lost slightly more) the figure is about 20%. They have been replaced, and in fact in some cases slightly more than replaced, by posts funded largely by medical charity and to a lesser extent by industry. Now, that might seem at face value a good thing. In fact, the posts which are being funded are with one or two notable exceptions short tenure posts—in other words, a research fellow with lecturer status perhaps for two or three years. They do not give the career structure that we are seeking. Nominally we are no worse off, but what we have done is replace long term tenured posts with short term research fellowships, and this is the difficulty which we face. There is a second difficulty with external funding of this sort, and that is the limitations imposed by the charities on the type of post they will fund. One can get money relatively easily for research, say, in cardiovascular diseases from the British Heart Foundation and from the cancer charities, but there are many other forms of disease, particularly problems with the aged, for instance which do not seem to attract the same sort of charitable money. To some extent therefore external funding is changing the priorities not necessarily in the direction we would like.

1457. What happens to most of these short term relatively new and young researchers when they come to the end of their grant money? They may apply for more, but what is the average result?

(Professor Swales) The majority of the medically qualified ones end up in National Health Service posts.

1458. Not doing research?

(Professor Swales) Not doing research, no.

Baroness Lockwood

1459. You do say, and again I found this quite alarming, that without the basic provisions that you were talking about for the UGC, the monies available from the MRC and from the medical charitable foundations cannot be used effectively, and even the applied research supported by the pharmaceutical industry is increasingly going abroad, mainly through lack of adequate British university facilities. So you are saying, although you are getting this money, you are not using it as effectively as you might and that there is a possibility of your losing more of the funding that is coming from the pharmaceutical industry.

(Professor Swales) That is correct. The MRC of course supports medical research in several ways, but most importantly perhaps, as far as academic departments are concerned, by project and programme grants. Very few long term posts are provided by the MRC. There are clinical professorships, but overall numbers are very small—three to be precise. The problem here is if you do not have the people, the project grant is no good. You need the infrastructure really. You need the people to carry out the research before you can actually get it started, so that MRC funds cannot be properly used if you have not got the academic staff to use them.

Chairman

1460. Tenured posts esentially coming from UGC, you mean?

(Professor Swales) Yes.

Baroness Lockwood

1461. What about the pharmaceutical industry? They do have a very close relationship with the medical profession. Is there no means of getting some basic funding from them and should they fund basic research?

[Baroness Lockwood *Contd*]

(Professor Dickinson) We had a meeting with the representatives of the Association of British Pharmaceutical Industry, Professor Swales and some half a dozen of my colleagues and myself, and we had a long discussion about this. Fundamentally, unless a pharmaceutical company sets up a charitable organisation completely independent of it, like the CIBA Foundation, or the Wellcome Trust, which has no direction to go in, there is really no or almost no pharmaceutical firm which is going to just fund basic research which has not got a clearly defined profitable objective in view. There is no particular reason why they should.

1462. If they see universities not able to assist them as they have done in the past by the basic research and then pharmaceutical companies coming in and funding applicable research, is it not going to be in their long term interest to make sure that there is a fundamental scientific base in our universities?

(Professor Dickinson) One would hope they would see this, but of course I imagine—neither of us are businessmen—that businessmen must be concerned with fairly short term returns much of the time. What in fact the pharmaceutical firms are doing is taking a lot of their clinical industrial work abroad, to an increasing extent, even to the States, where you would think that things would be more expensive but in fact the infrastructure is much better backed up in many other countries than in Britain.

Chairman

1463. Are they taking their work abroad solely because of the lack of facilities to carry it out or are there other factors at work there such as the difficulty in getting through the regulations and size of the market and the patent situation, etc.?

(Professor Dickinson) Those might come into it, but to be frank, they are taking it abroad, because they feel they get better value for money and the reason they feel that is that to an increasing extent, as our UGC—funded infrastructure slips away, we are making use as the pharmaceutical industry knows very well, of doctors and scientists funded by them, by the industry, to do specific projects concerned with testing drugs, and having done that on Monday, we try to use their services on Tuesday, Wednesday, Thursday and Friday, to support our own research. They are fully aware of that, and they feel to an increasing extent they are not getting value for money, which I would have to say in some cases is probably true.

Lord Kearton

1464. That point has been made to us in evidence already. Paragraphs 4.3 and 4.4 are really relevant to this discussion—two excellent paragraphs if I may say so which shoot down Lady Trumpington with some effect! The point you are really making, if I am following you correctly, is that we are living on our fat, not that we have got much now, but we are not now going to be able to produce a new cadre of clinical research workers for the future which we have been doing in the past. In other words, the available field of qualified people is going to go down.

(Professor Swales) That is absolutely right.

1465. But if this is absolutely so, then the crisis may not be next year or the one after but in five or ten years from now, and if it is not corrected there is going to be a very serious situation.

(Professor Swales) I think the danger is losing a generation of academics who end up just doing clinical service work, keeping services going. No one will be encouraged to go into that. After all, one wishes just to carry out a clinical job one could do this perfectly well in the Helath Service without taking on the difficulties of academic life. Once that generation is lost, of course, it will be extremely difficult to re-establish it.

1466. And we are on the way to losing it now?

(Professor Swales) I think very much so. Could I add one thing which relates to the discussion of technical trials in the pharmaceutical industry which I think is very important. British clinical trial data have always been very highly rated. Really the clinical trial was virtually invented in the United Kingdom and it is still rated quite highly by and large in the drug regulatory bodies across the world. So a trial done in England can be used for the Federal Drug Administration in the United States, for instance. So that is the quality of work we have been doing, hitherto anyway. Now that there are fewer of us here it becomes more difficult for us to carry out this work.

(Professor Dickinson) Can I just take up another point here? That is the question of the younger generation and seedcorn, as it were. One thing which, of course, we are all of us extremely distressed by is the approaching difficulty, and indeed current difficulty, of funding inter-calated B.Sc's or B.Med.Sci's. As you well know, the MRC has instructions to cut down funding for these posts because they are not directly concerned with research. As those have been wound down and cut right off, very few medical schools have got the funds—if in fact any—to continue to support BScs and, as I am sure you are also aware, unless they are an obligatory part of the course as at Oxford, Cambridge, Notthingham, the local authority people will not fund then. Therefore, we are beginning to lose an incoming generation of bright young people who simply cannot afford to do an intercalated year. In my own hospital we are going out looking for charitable support from the City of London to support inter-calated BScs. We will do our best to meet every requirement, but that is the state we have reached.

1467. Can I explore this for a moment. Even assume you get a supply, you are really talking about people of the age of 30 who might be receiving up to £10,000 a year or something of that kind as clinical research workers?

[Lord Kearton *Contd*]

(Professor Dickinson) No, I am talking really about the people who ---

1468. What is your attraction for them, even assuming you get intercalated years, if when you get to clinical research you are existing on contract grants? What sort of salary is it up to the age of 30, £10,000 or so? In addition to that, which is pretty low, there is no career progression after that. Is that the situation roughly?

(Professor Dickinson) No, it is not quite as bleak as that.

1469. Thank goodness.

(Professor Dickinson) But it is pretty bleak.

Lord Perry of Walton] It means surely you have better qualified people to take the jobs that are available in the medical departments.

Baroness Lockwood

1470. You see the intercalated degree as an essential part of the training for those who are going in for an academic career in medicine. What about those who are going into the service side of medicine? Do you see it being important for them or do you see the training being quite separate?

(Professor Dickinson) I think nearly all the academic leaders in the profession and the leaders, as it were, on the service side—or the great majority—have done intercalated years. Almost all the professors in the country have done that and both of us had that experience. I would have thought it is equally valuable to a practising doctor because one of the things one learns in such a year is how to assess evidence. You do not get swept off your feet by what you have just read in the papers. You learn how to assess evidence.

1471. So you think the training should be similar for both streams?

(Professor Dickinson) Personally I do, yes. I do not know if Professor Swales thinks that.

(Professor Swales) I would agree with that. I think it is worth pointing out perhaps that the intercalated year covers the broadest range of specialities. We are not simply talking about laboratory—based specialities. This year can be done in community medicine, it can be done in physiology, it can be done in surgery or medicine. So that that specialist year is very broad based. I think it is invaluable educationally, because the first two years of a medical course are very congested in terms of the simple accumulation of facts. To have an additional year when you can actually sit down and tackle a problem and at the end of the year and write a thesis is enormously valuable and the only time when you get that opportunity of course.

Chairman

1472. I would like to talk to you a little about clinical research. Do you find that the support from the MRC is adequate for clinical research?

(Professor Dickinson) Certainly not. An increasing number of alpha-rated projects are going unfunded and, as we mentioned in our submission, which is well known, other things being equal, basic research, basic science, has more appeal to the MRC, probably quite correctly in a way because it is difficult to support it from other sources. But obviously both of us and all our members are very well well aware of very good projects which cannot be funded by the MRC but which the MRC referees agree are fully deserving of funding.

Chairman]It seems to be rather a sad state of affairs, but when we looked at the situation in the United States, in spite of the fact that they have very, very substantial funding compared with this country, they were still turning down a lot.

Lord Kearton] Their rate was about 45-50 percent. Even though their funding is enormously greater than here, they said that was a matter of routine.

Chairman] The more funds you have the more proposals of high quality are received.

Lord Kearton

1473. Half the projects were not funded.

(Professor Dickinson) I am not quite sure whether that applies to the MRC. I should guess 25 percent.

(Professor Swales) I think more than that. Could I add one point and expand on it? The MRC does not have a separate clinical board as such. It used to have and that was abolished at the beginning of the 1970s so that you now have the situation of very clinically—based projects competing with basic science projects before, say, the systems board or cell board or one or other of the boards, of the MRC. This is justified on the grounds that science is science and has some absolute standard against which you can judge any project. Some of us find this extremely difficult to understand. If, for instance, you are comparing a project which is going to look at the molecular basis of say cellular division, which has enormous scientific excitement attached to it, with perhaps an application for support for clinical trial, say, of giving a trace element to a patient to see if it lowers the blood pressure, in those circumstances people go for the basic science. There is no doubt of this because they will go for the excitement every time, with the result that clinical projects by and large, will fare badly the more organisations such as the MRC pool everything together. It seems to me one is asking rather a lot of an adjudicating committee to try to evaluate such completely different projects. I think this is a problem which most clinical departments have.

Chairman

1474. On the other hand, to some extent, by taking that line they are protecting the long term, are they not, which is something you were asking earlier on which should be more protected? That is, long term research, is it not?

[Chairman *Contd*]

(Professor Swales) I think that is one particular sort of long term. They are not necessarily supporting the clinical end of science.

(Professor Dickinson) I did say in a way that I thought in some respects they were doing the right thing just because basic science is so difficult to get adequate support from other sources for, but that being said, of course we were both of us and our members were brought up at a time when it was possible to look forward to MRC support of any first class clinical research project and that is not the case now. The budget of the MRC in real terms has gone down.

1475. Is that because they are not supporting so many, or because there are a lot more first class proposals coming forward?

(Professor Dickinson) I think it is because research tends to cost more than it used to. In real terms, the MRC budget is slowly declining and of course salaries are going up all the time. Equipment is expensive and all these things are gradually cutting down the amount that the MRC can do. I am a Member of the MRC at the moment, and we have just looked at our budget, and we have made a decision to cut project grants by 20% next year across the board.

Baroness Lockwood

1476. On clinical trials, do you feel that they should necessarily be carried out in academic centres or is it possible that they could be undertaken in other general hospitals and other places?

(Professor Dickinson) They can be, but the co-ordination and proper design and management of the trial does depend on proper expertise, and back-up staff that Professor Swales mentioned, and most of the good trials have been co-ordinated from academic centres.

Chairman

1477. With some of the more tedious type of work you referred to before, could this not be done in less exalted surroundings?

(Professor Swales) Certainly, as long as it is adequately supervised. There have been some very good trials in general practice.

1478. Are trials, just as a matter of interest, supervised from academic centres but actually carried out in other places?

(Professor Dickinson) Oh, frequently.

(Professor Swales) We have just completed quite a large trial for Bayer in fact, acting as a co-ordinating centre for a large range of general practices which were testing an anti-hypertensive drug. We have helped with another multi-centre trial on thrombolytic therapy in coronary artery diseases. Again, we act as co-ordinating centre: we provide advice about design of the trial and act as a referral centre if there are any problems.

1479. What about the pressures that are exerted on clinical researchers due to the need of patient care? How can research time be protected so it is not constantly under this pressure which I understand is being exerted all the time?

(Professor Dickinson) Different department heads run their departments in different ways. Some have periods on the wards and then off the wards so that a professor who has clinical duties and a clinical contract might be given a period of three months devoid of any clinical duties, and be able to devote himself entirely to a research project. I think the majority of us in fact try to keep going on our clinical work: apart from anything else there is the question of patient continuity. It is rather confusing for patients if they are being seen a number of times for them to see different people every time, and that is one of the problems of going in and out of a clinical service, so if one tries to keep the continuity of patient care going, then inevitably you try to reserve some portion of the week in which you can carry on research projects and as our clinical staff is reducing in the NHS as you know very well of course, and our academic staff, our lecturers and so on, have been reduced and have been replaced by people doing specific projects for drug firms, so the relative amount of clinical work increases and the time for research diminishes.

Baroness Lockwood

1480. What additional resources in budget terms would you require, do you think, in order to carry out adequate clinical research?

(Professor Dickinson) It is a bottomless pit into which you could pour unlimited money, and I think you would get very good returns for it. To give an actual figure is extraordinarily difficult. We have produced one, say, £10 million or so, for a substantial number of new blood preferably senior lecturer career posts—that would make a tremendous difference because those career posts would be people who would do some of the clinical work. We did refer in our document, of course, to the problem of creating academic posts and then finding that the Health Authority will not give a consultant a contract but one can usually overcome that by saying "We are not going to do any more clinical work and we promise you we will not see any more patients but we will be able to advance our subject".

Lord Kearton

1481. It is quite clear that the extra money you need you have not got via the UGC as the only source, really, but is there any mechanism by which you could charge a lot of it against the NHS, away from the knock-for-knock basis?

(Professor Swales) I think that would be very dangerous because academic departments get quite a lot from the Health Service out of the knock-for-knock and I think once you start to charge the other side, it gets very difficult.

1482. So it must come from the UGC?

(Professor Dickinson) Yes.

Baroness Lockwood

1483. But in your experience, and on this tremendous pressure which we have been told by all our witnesses is affecting clinical research, have you looked at it and thought "We must ask UGC, or Government, or whoever, for either X number of new posts or for X number of million pounds in order to cope with this problem"? You have not done the exercise, have you?

(Professor Dickinson) Unfortunately we are realists.

Lord Kearton

1484. Can I re-phrase Lady Lockwood's question? Have you put pressure on the NHS to put pressure on the Government to give the UGC more money—in other words, have you got the NHS acting as your advocates to get more funds for the UGC?

(Professor Dickinson) We are not a political organisation. Indeed, as Professor Swales made quite clear, we have not been hitherto. We are thinking of doing so and I may say the Medical Research Society at a recent meeting (and I am the Chairman of that currently) did offer to provide some of its quite substantial budget for the cost of lobbying, and we are increasingly thinking that we shall have to do this.

(Professor Swales) I think one of the problems is that the DES and the DHSS do not really seem to speak to each other very much. We have had quite a lot of difficulty in terms of salaries for academic clinical staff, for instance, and it is quite clear that the majority of politicians do not quite appreciate, for instance, that if you are a university—based academic you do actually do clinical work.

Baroness Lockwood] I think our problem, if I may say so, Chairman, as a Select Committee is that this problem has been put to us continually and I am sure we shall mention it in our report, but what we say will be much more effective if we can quantify it to some extent.

(Professor Dickinson) What we have tried to do—perhaps we have been under-ambitious—has been to suggest say, 200 career posts preferably at senior lecturer level funded long term by the UGC, and with the undertaking that they will not displace any NHS posts which some of our members reported actually happened. That appeared to us a realisable objective. What we think in the present political climate is unrealisable is much more than that. So we have not mentioned any more than that. But, of course, as you all know, the NHS is also suffering from very serious underfunding and, of course, we each pin each other up and we are both going down.

Lord Kearton] Would you think the NHS underfunding could be ameliorated by reordering priorities and certainly extremely expensive treatments? Previous witnesses and others have shown you could give very good results with much lower expenditure. One of the Government's problems, as you know, is that the demand is open-ended. Any government has to put a ceiling on it. It comes to priorities, not just on research but on where the mone goes.

Chairman] I think it would be helpful to us if it was possible for you to produce some paper for us on this in reply to Lady Lockwood's point.

Lord Kearton

1485. You have to make it clear, Chairman, what it is you are selling. You are not selling immediate results, what you are selling is this—unless you back us you will have a much inferior National Health Service in five years time. You must bring that out very clearly.

(Professor Dickinson) May I also say something else? We are selling British prestige to some degree and that is not commercially negligible. One of the sad things I saw just recently on the Overseas Research Studentships Committee—one of the committees that gives out research studentships for people to come to this country doing PhDs—was that the number of applicants in science from Canada and the States is steadily diminishing. Their place is being taken by large numbers of people coming from predominantly China but also from other parts of the Third World. Where the young American graduates are going is, of course, to Japan. It is absolutely staggering to see Japanese medical research, which made very, very little impact on the world stage fifteen years ago, when you visit Japan now. You find that Japan is full of American post-graduates who have gone there to do PhDs. That is what I mean by prestige, but it also becomes reflected in the commercial world too, because then our drugs, our instruments, the expertise we have to offer make less impact and fewer people want to come and work here, spend money here, invest here if they do not see a thriving academic base.

Lord Rea

1486. You mentioned in your paper two very successful groups of drugs, the beta blockers and H2 antagonists. Those were developed and marketed by drug companies but you have implied that, in fact, if it had not been for the basic science of this country they would never have got off the ground.

(Professor Dickinson) I do not think we said that exactly. Perhaps I could take just a specific example because I happen to have taken part in the first two trials of beta blockers in this country, one that was conducted in the academic department at University College Hospital. There were 12 patients and, I think, 12 doctors participating in it. It tock a most fantastic time and organisation to do. Somebody had found a drug with very interesting pharmacological actions and had no idea if it would be of the slightest value. It was tried out in angina and had properties of relieving pain, but at that time a junior academic, Brian Pritchard, was very carefully collecting the results of this trial and he

[Lord Rea *Contd*]

noticed that it lowered blood pressure. The beta blocker successors to Pronethanol—Propranolol—has remained for the last 15 to 20 years one of the standard drugs for treatment of blood pressure throughout the world. That has brought immense sums of money—millions and millions—into this country in terms of export earnings. Now, obviously, once that drug had been discovered by somebody in the British pharmaceutical industry, in the end some ten or twenty years hence somebody would have discovered that it had an action to lower blood pressure. I mean, all scientific discovery tends to occur in a number of places at once, but it was in fact introduced in this country; its potential blood pressure lowering action was identified in this country, and that has been of enormous profitability to this country in terms of export earnings. It was a fantastically profitable drug.

Chairman

1487. That is very valuable. Could I switch to another question before we close this session? Our terms of reference are research priorities related to the needs of the National Health Service, and, of course, it is no good doing the research if, in fact, the results are not applied effectively in the Health Service itself. What is your feeling about the application of the results of research within the Health Service? Do you think it is being effectively applied? Are there weaknesses there?

(Professor Swales) I think inevitably there must be some weaknesses, Lord Nelson. I think one of the most encouraging things—and we have had a fairly dismal session from some points of view—is that over the last 25 years there has been development of the post-graduate centres in British hospitals. These are centres in which local general practitioners, local consultants and junior staff meet and have discussions or hear a lecture by experts in a particular area. This has improved the level of post-graduate education enormously in this country. Of course, these places are a very heavy demand on the time of the academics who occupy quite a substantial number of slots in the programmes of post-graduate centres.

1488. But a very important need.

(Professor Swales) Extremely important. I find myself having to turn down more and more invitations to lecture now simply because of the heavy pressure within our department. One simply does not have the time to do this, but I think it is extremely valuable.

1489. Are they organised by the region or districts? Who organises them?

(Professor Swales) Each district has a post-graduate centre at, say, a local hospital and supported by the post-graduate committee with representatives from general practice and hospital doctors. This compiles a programme with the limited budget provided by the regional post-graduate committee.

1490. So you would say that that was pretty well done?

(Professor Swales) I think it has been extraordinarily successful, yes.

1491. How long has it been in operation?

(Professor Swales) About 25 years—the early 1960s I think.

Lord Perry of Walton

1492. Is there not a weakness because the proportion of practitioners with experience is relatively small?

(Professor Swales) I think the problem is particularly with general practitioners, less with hospital staff. I think the problem is tending to diminish with the passage of time. I think there has been a change in the level of enthusiasm as well as the level of academic ability of doctors. Some of the best undergraduates are reading medicine how, so that by and large the younger general practitioners are much better at supporting the post-graduate centre activities than were the older general practitioners.

Chairman

1493. Are you using up-to-date technology to assist in this? Why do the professors have to go all round the country giving lectures? Why do they not give one lecture and have it video-recorded?

(Professor Dickinson) We do. There is a substantial cottage industry, as it were, as well as various commercial firms which do, in fact, do that very thing but on the other hand you cannot ask questions of a video-tape.

Chairman] No, but if you take the new techniques under tutured instruction now being applied, in one or two universities—Aston University—they tape the whole lecture including the questions at the original session and then somebody else chairs the repeat performances and takes questions as best they can.

Lord Perry of Walton

1494. You can ask question with an interactive video disc, it is just that it costs a lot of money.

(Professor Dickinson) I have watched this taking place between Charing Cross and Westminster. It is fairly effective, but it was rather noticeable when I went to Charing Cross, where the clinical teaching session was, the room contained about 50 to 100 under graduates, and at Westminster when the video programme panned round there were two sitting in the back row who were persuaded to come and sit nearer the camera. I think there is something a little bit cold and unexciting about that type of experience though it certainly can work.

Chairman

1495. But it is better than nothing, is it not?

(Professor Dickinson) Yes.

1496. We went to Stamford University which first pioneered this in relation to academic studies

[Chairman *Contd*]

and they told us that the students who watched the video tutored instruction did better than the students who attended the original lectures, so it is not all bad, and it might help you in your problem! Are there any other points you would like to make before we close this session?

(Professor Dickinson) One thing perhaps: could I just refer to manpower, because you spent a very considerable time interrogating David Weatherall about the question of manpower and to what extent we were just making a mess of our own career structure. I think a point we would like to put across is that a lot of the manpower problems stem from the fact that there are not enough jobs. If people see plenty of career opportunities ahead, as we both saw when we were newly qualified, we were not too worried about going off for a few years into research projects because we knew we could get back into the ladder and that the opportunities were ahead. Now, of course, we find that if the career opportunities at the top are missing, then we have got too many people in the lower ranks, so we have had these manpower get-togethers which are trying to cut down the number of people in the lower ranks, and that is increasing the competition. Fundamentally, however, all these are secondary to the lack of career opportunities. The obsession with senior registrar and contract reduction and registrar contract reduction would I think not have arisen or been of immediate consequence if it were not for the lack of perceived career opportunities. That is the big problem, and I think I would like very much to dispel the impression that if we just put our house in order and got all the jobs adjusted in the lower ranks, everything would be solved, and that we have brought this on to ourselves. I really do not think we have brought this onto ourselves. It is a consequence of a lack of career opportunities.

1497. Thank you very much. I am glad you made that point. May I thank you for giving up your time this afternoon and coming to join us. We value very much the information you have given us and we are very grateful.

(Professor Dickinson) Thank you. We will try and send you a rather more quantitative estimate.

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HOUSE OF LORDS SESSION 1987–88

MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

Thursday 26 November 1987

CENTRE FOR HEALTH ECONOMICS, UNIVERSITY OF YORK
Professor Alan Maynard and Professor Alan Williams

NATIONAL INSTITUTES OF HEALTH, USA
Dr Claude Lenfant

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THURSDAY 26 NOVEMBER 1987

Present:

Erroll of Hale, L.	Perry of Walton, L.
Flowers, L.	Rea, L.
Hunter of Newington, L.	Sherfield, L.
Kearton, L.	Smith, L.
Nelson of Stafford, L. (Chairman)	Warnock, B.

Memorandum by Professor Alan Maynard

MEDICAL RESEARCH: REFLECTIONS ON THE CAREER STRUCTURE

INTRODUCTION

1. This note refers primarily to item (h) in the Sub-Committee's list of specific questions for which it asked for evidence. After a brief commentary about the fragmentation and lack of co-ordination of research, the problems of the career structure for researchers will be discussed with reference to:

(i) training researchers

(ii) remuneration and career structure.

Whilst this discussion will be general it is inevitably informed by the author's experience in training and recruiting health economists over the last 10 years. Furthermore the remarks in this note will be directed towards the situation in health services research (HSR) primarily.

(1) *The Fragmentation of Medical Research*

2. There are many agencies, public and private, involved in the provision of medical research. For instance the following:

(i) the Department of Health and Social Security and the Health Departments in Wales, Scotland and Northern Ireland have differing arrangements for commission of medical research. For instance the Research Management Division of DHSS has a budget (1987–88) of about £13 million to commission research. However about £12 million of this is committed to existing units and programmes, and perhaps only £250,000 of the remaining funds will be available to commission new starts in 1987–88 if the Treasury does not fund the 1987 academic pay award. However this is only part of the Department's capacity to fund research. ''Quick and dirty'' (short-term) health services research is commissioned by the Department from management consultants and the volume of this ''business'' has accelerated rapidly from about £700,000 in 1979 to about £19 million in 1986.

(ii) the Medical Research Council. Despite the transfer in 1981 of the Buller-DHSS funds (£2.7 million) from the Department to the MRC, the Council still funds little health services research. In 1986 it created a Health Services Research Committee with an independent budget (£150,000 pa) for the first time. There is evidence that the Council is unable to recognise what is health services research (for example, its print-out of Buller-DHSS projects contains little HSR).

(iii) the Economic and Social Research Council finances a variety of HSR activity. This includes the ESRC—DHSS Designated Research Centre in health economics at York.

(iv) the National Health Service. Despite the meagreness of the NHS management the demand for health service research personnel in the NHS is increasing (for example, in economics). The Service is able to ''buy in'' such skills, by flexible use of administrative gradings, at salaries which may be superior to those available in academia.

(v) the private sector. The private sector uses scarce HSR manpower in two ways:

  (a) the management consultancy business which offers personnel remuneration and conditions far superior to those in academia. This sector has grown rapidly since 1979 (see above under DHSS).

  (b) supplies industry (that is, pharmaceuticals and medical equipment). Increasingly this industry is seeking to carry out cost effectiveness studies as a result of regulatory pressure and to give firms a competitive advantage in marketing their products. Like the management consultancy business, they pay higher rates to staff and are likely to attract increasing numbers of scarce researchers into their ranks.

3. It is inevitable that there will be competition between public and private organisations. However the public sector's lack of co-ordination in terms of agreed division of labour contributes to the career

frustrations for staff the failure to develop imaginative and integrated programmes of research. A sensible division of labour between DHSS, MRC and ESRC might be:

(i) MRC to finance the development and application of new health service research concepts in clinical settings. This would involve the application of social science and other techniques to evaluate health care outcomes and the cost-effectiveness of alternative ways of diagnosing and treating patients.

(ii) ESRC to finance the development and application of social science concepts in relation to non-clinical areas for example, the health-unemployment relationship; and the causes and remedies for inequalities in health and health care.

(iii) DHSS to finance the application of proven techniques (acquired from MRC and ESRC) to facilitate NHS management and policy formulation by Ministers and civil servants.

4. At present the division of labour between the public agencies (MRC, ESRC and DHSS) appears to be *ad hoc*. Clear definition of their remits would seem sensible to facilitate the establishment of research priorities and the evaluation of their performance.

(2) *The Training of Researchers*

5. The fragmentation of roles in the public sector is reflected in the provision of training for HSR researchers, where the level of activity appears to be meagre and its relation to research priorities are unclear. For instance the DHSS finances the training of six MSc students in health economics each year and the MRC finances, in the HSR field, a small number of studentships in statistics and medical sociology. The ESRC, which is under severe economic pressure, appears to have no co-ordinated approach to the training of HSR researchers although it finances post-graduate training in the relevant disciplines and this produces, indirectly, researchers who may later be active in HSR.

6. Whatever the future pattern of health service research (HSR) there seems to be considerable scope for the more careful co-ordination and planning of the training of researchers. This would appear to be the case not only in the initial training of researchers but also in their subsequent training over their career. For instance many more medically qualified researchers will have to acquire a knowledge of economics if they are to be able to design and conduct clinical trials which appraise costs and outcomes. There is a need for such researchers to be equipped, as necessary over the career-cycle, with such skills and have them augmented as and when necessary.

7. Thus there has been:

(i) a failure to identify initial (MSc and PhD) training needs in health service research and ensure an integrated programme of education across public (MRC-ESRC-DHSS) boundaries and between the public and private sectors;

(ii) a failure to identify training needs over the life cycle within and between the differing disciplines which make up health services research.

(3) *Remuneration and career structure*

8. The career uncertainties in health services research are considerable. Staff are recruited on short term contracts and for young staff this may be for periods of only two or three years. Often the use of such staff consists of a 6–12 months "running in" period whilst they familiarise themselves with their new colleagues and the work, and a 6–12 "running-out" period in which the researchers are diverted from their work by their anxiety to acquire a new job.

9. Such uncertainty makes the attractions of working in the NHS or the private sector considerable, particularly as such a career move may also increase income. Clearly "tenure" is not the solution because it may blunt initiative and reduce research activity and output. An obvious improvement would be the more widespread use of "rolling contracts" for example, four or six year contracts for established researchers with two or three year reviews of output and rolls-forward if the quality and quantity of work is adequate.

10. Without the careful and imaginative development of such contracts there is a likelihood that the output of health services research will be impaired. The uncertainties associated with poor funding and poor remuneration in HSR together with the greater certainties of NHS and the private sector in the United Kingdom and similar advantages abroad is leading to scarce and talented research staff leaving the MRC-ERSC-DHSS academic domain. This seems to be particularly the case for younger researchers and will deprive this research activity of its future leaders.

11. The publicly financed and trained researchers in HSR are being induced to work outside the MRC-ESRC-DHSS domain by superior remuneration, less uncertainty about funding and better career

possibilities. It is possible that these tendancies will be exacerbated by the increasing demand for HSR skills in the NHS. At present the NHS can offer good salaries but uses such HSR skill-holders inefficiently because there is no clear career structure. However, if and when, the NHS develops an efficient career structure for such personnel (for example a NHS economics service with practitioners moving between Regions and Districts as needed but with tenure and a salary scale within the Service), the relative attractions of this sector for researchers will be increased. Unless the academic research bodies (MRC-ERSC-DHSS) provide better pay and conditions for their staff they will continue to invest in people who will be quickly picked up by rival employers and they will continually, particularly in areas such as economics where the public-private competition for scarce skills is most intense, face difficulties in recruiting and holding staff.

CONCLUSIONS

12. (i) the health services research programme is fragmented with a failure to define the respective roles of the MRC, the ESRC and the DHSS.

(ii) the skills of health services researchers can be sold to public sector employers (MRC, ERSC and DHSS to finance research in university and other academic institutions), to the National Health Service and the private sector. The budgets and recruitment activities of the latter (NHS and private sector) have increased considerably in recent years.

(iii) to meet this competition, the public sector (academic) employers need a clear definition of their roles and the establishment of research priorities.

(iv) the training of researchers, both initially (MSc and PhD) and over the career appears to be organised in a largely *ad hoc* manner and financed parsimoniously with little regard to often implicit or ill defined research priorities.

(v) the relative financial (remuneration) disadvantages of employment in the MRC-ESRC-DHSS research sector are reinforced by uncertainties with regard to research funding, short-term contracts and a poor career structure. These factors make it difficult to recruit and retain research staff and although these influences vary between the disciplines, they seem in some cases (for example economics) to be showing little sign of easing.

Alan Maynard
Professor of Economics
Director of the Centre for Health Economics
University of York

May 1987

Additional Memorandum by Professor Alan Maynard

Introduction

This written evidence describes health economics research at York and addresses some of the specific questions which were put to Alan Williams and me prior to our giving oral evidence on November 26 1987. (Alan Williams separately addresses the remaining questions in his supplementary written evidence).

Centre for Health Economics (CHE)

The Centre was established in 1983 and is the largest health economics unit in Europe. The Centre's main sources of finance are contract research from DHSS and a programme of work financed by ESRC for a period of eight years (1983–91). The long term funding of the Centre is uncertain.

The unifying theme of the Centre's work is the measurement of health outcomes. Outcome measurement is a research activity in itself with investments in methodological development and wider application. This aspect is also emphasised in our work on community care, technology assessment, primary care, manpower and the analysis of how consumption (for example of illicit drugs, alcohol and tobacco) affects health.

This work consists of long term (one to six years) investments in economic aspects of these subject areas. The objective is to improve the analysis of health and health care and develop new methods of evaluation to assist health care policy making.

Health Economics Consortium

The Centre's work generated a demand from NHS managers to assist them in short term investigation of policy problems. Because of the nature of research contracts, the capacity of Centre staff to respond to this demand was limited and, as a consequence, the Health Economics Consortium was created to provide economics advice for the constituent parts of the Northern, Trent and Yorkshire Regions. The Regional Health Authorities guarantee the Consortium's funding and its work is charged out to clients so that costs are met. During its first two years the Consortium has proved to be very successful at meeting NHS needs. It provides an efficient vehicle for the rapid dissemination of research findings and stimulates the research activity of Centre staff.

Health Economics: Staffing Problems

Both the Centre and the Consortium in York, together with other health research centres using health economists, face difficulties in recruiting skilled and experienced staff. These show signs of worsening as the demands for the skills of health economists increase.

Answers to Selected Questions

Should careers in health research (HR) be promoted for non-medically qualified individuals?

Why should non-medical be treated differently from doctors?

(i) HR is a multi-disciplinary activity in which medically trained researchers can make an obvious contribution but not the only contribution. Indeed for much HR there is no reason why doctors should be the *primus inter pares* in the activity. The tradition dominance of medicine in HR has not facilitated its development and has often blinkered the work.

(ii) In many cases the main disciplinary inputs to HR will come from social scientists, that is statisticians, economists, psychologists and sociologists. Doctors training in these skills is very limited given the nature of undergraduate training programmes, and subsequent training throughout their career.

(iii) The important contribution of the social science disciplines to HR makes it efficient to "promote" HR, but what does promotion mean?

Let me reiterate some elements of my written evidence:

(i) the division of labour between DHSS/ESRC/MRC is defined inadequately at present: Each institution should specialise as follows:

MRC	clinical methods of evaluation development of methods in costs/quality of life measurement
ESRC	social science discipline based for example health/unemployment inequalities in H and HC
DHSS	application of proven methods to inform policy making.

Definition of roles is essential to establish what HR careers can be pursued where:

(ii) no thorough training strategies have been evolved by the MRC/ESRC/DHSS. Funding of training of medical and social science HR personnel is fragmented and parsimonious. Two levels of training are needed (a) *awareness* training for medics so that they can be "aware" and develop critical powers in evaluation HR results for example train MRC centre staff in HR skills, (b) practitioners—where there is excess demand and restricted uncertain supply. There is a need to reorganise training to create a career structure but there is no point having career posts if we fail to produce trained human capital.

(iii) private sector competition for HR manpower is increasing and substantial from for example management consultants and the private supply industry.

It is essential to establish a career structure and adequate pay as well as to increase the supply of HR personnel.

What Career Structure?

An adequate contract would be a six year contract with three year reviews and rolls forward. Possible tenure would be in the HR system rather than in a particular unit.

How to expand training and education possibilities, Who should hold the contracts of employment of HR staff?

Expansion

The expansion of training and education possibilities can be approached from the demand and supply sides.

(i) Create demand. University Medical Schools, the Royal Colleges and post-graduate career training structures all need to take HR seriously. It is more important for a physician to encounter HR skills/methods than surgery and although such training has obvious opportunity costs its advantages are obvious for example hospital doctors manage large budgets (£500,000) but have no management and economics training.

(ii) Create supply. Increased funding is needed, especially to create the human capital which is needed. This human capital can be created by training new (young) graduates and converting other researchers to the HR field so as to provide middle and upper management.

Location of Contracts

The location of contracts depends on the policy goals being pursued. HR staff in universities tend to be isolated and in inadequate accommodation. If research councils held contracts this might facilitate mobility within the HR system but this might create an inferior (in status terms) cadre of University employees. An obvious way to mitigate this would be to pay Council research staff more than other University academic employees.

How should the introduction of new technology be regulated?

The introduction of new technology in the NHS at present is a product of perverse incentives. Doctors have no direct incentive to economise in the use of resources and the costs of their innovations are met by the taxpayer (or in the private sector, by the insurer). The funders of health care, public and private, have little control over innovation.

A radical method to change this environment would be to expand the Medicines Act 1968 which controls the granting of product licences to new pharmaceutical products. If this was extended to include costs (at present excluded from the 1968 Act) and to cover non pharmaceutical innovations (especially equipment) the following environment would be created:

(i) any innovation could not be disseminated without a product licence.

(ii) no product licence would be granted until clinical trial evidence about cost and outcome (measured in terms of duration and quality of life that is quality adjusted life years (QALYS)) was available which established the cost effectiveness of the new product.

A complementary reform would be to require all clinicians bidding for additional funding to provide evidence about cost and outcome (QALY) and to oblige all managers to fund only those developments which could be demonstrated to be cost effective.

Without fundamental alterations of this nature unproven and expensive technologies will be disseminated as a result of advocacy by optimistic clinicians and self-interested suppliers. The opportunity costs (alternatives foregone) of such advocacy are substantial.

Dissemination: is it adequate and are findings implemented?

Again the role of incentives is crucial: it is necessary to have systems of reward for researchers to disseminate and for users to implement increases in knowledge.

(i) Improving dissemination

(a) Creating a *demand for research knowledge*

The management and production of research isolated from NHS managers and clinicians. It would be efficient to involve NHS general managers in the *research decision making* and refereeing process. The Scots do this with management representatives on the Chief Scientists Committee. A significant effort to involve managers in the research process would be educational and would provide an avenue for result users to influence result production.

(b) a *supply* side problem

The pressure to go in for quick publication of results may isolate output from peer reveiw. To avoid this error it is essential to give (contract) researchers time to "polish" their initial findings for journal submission and peer review. The "value for money" ethic can threaten academic excellence if care is not taken.

(ii) Implementation of research results

It is necessary to create an economic environment in which self interest leads all decision makers to use evaluative information in bidding for resources. There are various ways of doing this and two possibilities are outlined in relation to the answer to question 5 above.

Memorandum by Professor Alan Williams

PERSONAL BACKGROUND

To enable the sub-committee to appreciate the experiences that have led me to my present views, I should explain that I am an economist with a research interest in the appraisal of public expenditure in general, and of health-directed expenditure in particular. I am a life-long academic, but spent 2 years (1966–68) working on these problems in HM Treasury and have been a member of several official advisory bodies (the Royal Commission on the NHS, the DHSS Chief Scientist's Research Committee, and various ESRC panels and sub-committees on research into health and health care). My own current research interests are in the measurement and valuation of the benefits of health, in the costs and benefits of expensive medical technologies (for example scanning, cardiac surgery, transplantation), and in the practice of overstretched specialities (for example orthopaedics and geriatrics) in non-teaching districts. This work has been supported variously by the DHSS, ESRC, MRC, the NHS and private research bodies, so I have had direct personal experiences (positive and negative) with a variety of research funding bodies.

INSTITUTIONAL ARRANGEMENTS FOR RESEARCH SUPPORT

I have argued for some time that we need a separate Health Research Council. The reasoning behind this is as follows:

The ESRC, MRC and SERC are essentially discipline-based bodies, at their best when pursuing ideas which flow from the particular disciplinary perspective they represent. They do less well when they attempt interdisciplinary work *within* their respective fields, and even less well when they embark on problem-solving assignments which go across (say) Natural Sciences, Medicine and Social Sciences. (They also play an important role in supporting research training in their respective disciplines, and the training and career prospects of researchers are a serious problem for anyone concerned with the quality of health services research).

The DHSS (and to a lesser extent other government departments with health related responsibilities, for example the Department of Environment) are essentially problem solving bodies, and are interested in commissioning research which is "policy-relevant", which in practice means which is seen to have fairly immediate relevance. As funds have become more restricted, so the time horizon and range of interests pursued has become more restricted. Moreover it is difficult for government departments to commission work which might be thought to indicate that they had doubts as to whether current policies are working, yet such doubts must always be sustained by any serious researcher (or research sponsor).

Private research sponsors may well be even more biased (for example Drug Companies, Equipment Manufacturers, or the "arms-length" bodies they support), or deliberately restricted in the scope of the work which they will undertake (for example limited by their terms of reference to a particular disease, or client group, or geographical area, or disciplinary perspective). At their best, however, they are free from political constraints, and *can* be more adventurous (for example unorthodox) if they are not accountable to any major interest group.

It is this broad assessment of the situation which explains why I think there is a distinctive role for a Health Research Council, whose task would be to start from the population's health problems, and work back from there to the research that is needed to help resolve them. This is a broader remit than that of the DHSS, which tends to be preoccupied with the NHS and other prominent political responsibilities of Ministers, but, more significantly, it is a remit which must be pursued independently of the politicians. I realise that this is swimming against the tide, when the existing research councils, (and even the UGC) are becoming more and more the instruments of government policy, but the sub-committee will presumably wish to stand back and ask whether this politicisation of research, and the institutions which support it, is in the longterm interests of the community it is supposed to serve.

Thus I see a Health Research Council as being multidisciplinary, problem-oriented, independent of current policy makers, yet financed by the taxpayers. I recognise Parliamentary accountability for funds to be a problem, but it is one that can be solved if politicians would only exercise sufficient self-discipline. It would operate alongside the existing research councils, and take over that part of their budgets (and existing commitments) which is at present supposed to go into Health Services Research, but would need additional money beyond this if it is to have sufficient room for manoeuvre to embark on significant new initiatives.

THE CASE OF HEALTH ECONOMICS

Health economics can be taken as an illustrative example of the problems which arise in the present situation, though I have little doubt that each discipline could provide its own horror stories. Support for the *discipline* should be the responsibility of the ESRC, but since health economics is a rather small sub-discipline of economics, it gets severely squeezed by the much more central demands of the big-spending economic model-builders, and it has actually got more basic disciplinary support (for example, for the training of health economists) from the DHSS, which has stepped into the void left by the ESRC. Moreover, as the ESRC has been pushed into adopting (short term) ‘‘policy relevance’’ as a major criterion for research funding, it is being pushed into reflecting the priorities of the DHSS, instead of complementing the DHSS’s views by steadfastly adopting a different stance (for example, supporting work which primarily promises methodological or theoretical advance, rather than instant usefulness). The MRC seems to see health economics (to the extent that it sees it at all) as something it may reluctantly have to take note of as an awkward appendage to its interests in clinical work and epidemiology, but it manifests no enthusiasm for (or indeed real understanding of) the broader significance of what the discipline has to offer. This is understandable against the background of the MRC’s traditional ‘‘medical science’’ role, since economics is *not* a medical science, but a social science with something to say (*inter alia*) about the practice of clinical medicine, so it straddles the territory of both the ESRC and MRC, without being more than peripheral to either of them. Fortunately the DHSS has perceived this hiatus, and has exercised periodic pressures to prevent it from being utterly disastrous. But since they have been struggling contemporaneously with the much larger task of getting the MRC to undertake more health service research generally, and to make the associated consultative mechanisms work better, there does not seem to have been much energy left over for worrying about the specific problems of health economics in particular.

Meanwhile, within the DHSS we have witnessed the steady erosion of the research liaison groups, which were intended to act as a bridge between the research needs of the policy makers and the capabilities and interests of the research community itself. It never was an easy relationship, and put all parties under strain trying to understand each other’s perspectives, and struggling to maintain a level of dialogue and co-operation that would lead to worthwhile and reputable research. Since economics was again pervasive but not dominant in any particular policy discussion, and had no natural ‘‘customer’’ with a central interest in it, it tended to languish on the sidelines, except possibly in the important area of institutional vs community care, where it played a more central role.

Health economics as a discipline cannot, and of course should not, operate in isolation from other health related disciplines, and as will be seen from *Annex A,* its scope overlaps considerably with epidemiology, sociology, management, etc. and, when investigating the cost-effectiveness of clinical practices, requires the collaboration of medical scientists and practitioners. I believe this collaboration will happen more often, and will be more fruitful when it happens, if it is pursued in the context of a Health Research Council which is not dominated by any one disciplinary perspective. It requires equally strong, and mutually respected, inputs from both the medical and social scientists, and would probably best be directed by someone who understands which health issues are researchable but is distinct from both research groups, and not politically committed or easily manipulated by any of the manifold interests involved.

IMPLICATIONS FOR THE ‘‘NINE SPECIFIC QUESTIONS’’

(a) and (d) Priority setting is pluralistic and should remain so. It is important to have many distinct viewpoints both intellectual (discipline based, technique orientated, problem-solving) and political (relating to the context in which decisions are made) informing research. A health research council would fill a niche that is currently empty, by being broadly multidisciplinary (across both medical and social sciences), problem orientated (not engaged in ‘‘basic’’ research), and independent of current policy makers yet financed by the taxpayers.

(b) and (c) There is an imbalance between the resources devoted to technical/scientific assessment of health care technologies, and the resources directed to evaluating their cost-effectiveness at the level of clinical practice, which a body such as a Health Research Council could correct.

(e) and (g) I suspect that the main problem here is *not* that research results are not adequately disseminated or taught or explained, but that people in the field have no great incentive (apart from professional pride and public spiritedness) to act upon them. I doubt whether research funding bodies can do much about this problem, which is more the responsibility of the NHS and the bodies responsible for setting high standards of professional practice.

(f) It is not easy to define ‘‘unnecessary duplication’’, since some replication of other people’s results is usually desirable, and in any case it is rare for two projects to be exactly the same. I think a more serious issue is whether too much effort is being put into evaluating relatively minor variations in, say, drug regimes, and too little into much grosser variations in, say, surgical practice.

(h) The term "medical researchers" is already a stumbling block here. In the context of a research council concerned with health, and with the role of the health care system, it would be more appropriate to think in terms of health researchers, who would include (social) psychologists, medical sociologists, health economists, management scientists, as well as experts in medicine, nursing and remedial professions. A health research council could take a much broader view of these training needs (especially the cross-disciplinary training that is needed) than is evident in the present set-up. It might also help to do something about the horrendous lack of career prospects for researchers who do not want to teach.

(i) Clearly my view is that we need some dramatic shift of emphasis, such as would be brought about by the creation of a Health Research Council, to introduce a new dynamic into the system. Although it would be valuable to have more resources devoted to research into health and health care, it would be even more valuable if such an injection were accompanied by a major institutional change, so that we do not *just* get more of the same.

CONCLUSIONS

1. I do not believe the problems of health research are soluble within the present institutional framework.

2. Changing the institutional framework is a necessary, but unfortunately not a sufficient, condition for getting off to a fresh start.

3. To harness the existing pool of talent and to get things moving in a more promising way, requires a small respected, multidisciplinary group with vision, energy, resources, and room for manoeuvre, constituted as a Health Research Council.

4. They need to be given 10 years to make their mark. If they have not made a difference by then, they probably won't.

CAVEAT

I recgonise that this document consists of a succession of sweeping generalisations, formulated from one person's peculiar standpoint. I am willing to defend, clarify or expand on these statements, wherever they touch on the particular interests of the sub-committee, and especially where they conflict with the views expressed in other submissions. I regard the sub-committee's remit as very important, and its enquiry as potentially very influential, since the strains within the present system are such that I doubt they are containable. Something drastic needs to be done, and the sub-committee's report could be the detached, definitive document which points the way forward. I hope so.

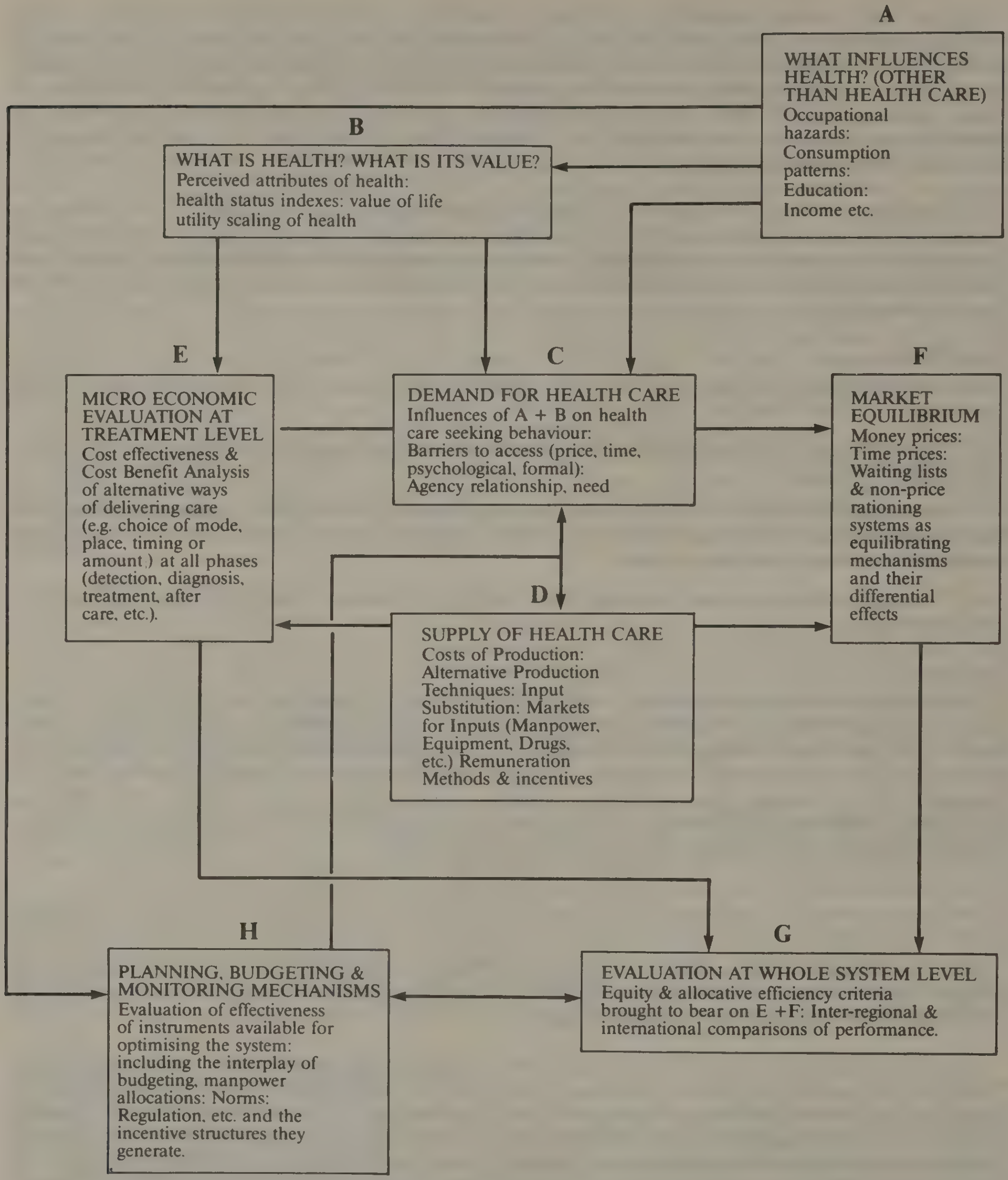
Annex A

Health economics covers a broad territory; in particular it encompasses but is not restricted to an analysis and evaluation of health care. The intellectual structure of the sub-discipline of health economics is represented schematically in the Figure opposite.

First, there is the whole issue of what health is and how it is to be valued (Box B). The question of the "value of life" and the possibility of devising a utility scale for health is part of an economic approach to health, but also lies within the province of anthropology, medicine, psychology and sociology. Second, there is the issue of what influences health other than the health care system itself: and of inequality both in terms of achieved levels of health (however that can be measured) and in terms of exposure to factors or phenomena conducive to health, such as consumption patterns, education and income (Box A). There is also the question of access to and utilisation of the health and personal social services.

The intellectual framework for work in health economics is organised essentially around the classical economic notions of demand and supply of health. These produce a derived demand for and supply of health care (Boxes C and D).

These notions lead to the formulation of the problems of market equilibria and of the micro-economic evaluation of treatments (Boxes E and F). In turn, these enable the evaluation of whole systems (Box G) which lead naturally to the consideration of the efficacy of planning, budgeting and monitoring mechanisms available to policy makers (Box H).


A
WHAT INFLUENCES HEALTH? (OTHER THAN HEALTH CARE)
Occupational hazards:
Consumption patterns:
Education:
Income etc.
B
WHAT IS HEALTH? WHAT IS ITS VALUE?
Perceived attributes of health:
health status indexes: value of life
utility scaling of health
E
MICRO ECONOMIC EVALUATION AT TREATMENT LEVEL
Cost effectiveness & Cost Benefit Analysis of alternative ways of delivering care (e.g. choice of mode, place, timing or amount) at all phases (detection, diagnosis, treatment, after care, etc.).
C
DEMAND FOR HEALTH CARE
Influences of A + B on health care seeking behaviour:
Barriers to access (price, time, psychological, formal):
Agency relationship, need
F
MARKET EQUILIBRIUM
Money prices:
Time prices:
Waiting lists & non-price rationing systems as equilibrating mechanisms and their differential effects
D
SUPPLY OF HEALTH CARE
Costs of Production:
Alternative Production Techniques: Input Substitution: Markets for Inputs (Manpower, Equipment, Drugs, etc.) Remuneration Methods & incentives
H
PLANNING, BUDGETING & MONITORING MECHANISMS
Evaluation of effectiveness of instruments available for optimising the system: including the interplay of budgeting, manpower allocations: Norms: Regulation, etc. and the incentive structures they generate.
G
EVALUATION AT WHOLE SYSTEM LEVEL
Equity & allocative efficiency criteria brought to bear on E +F: Inter-regional & international comparisons of performance.

Additional Memorandum by Professor Alan Williams

Question: *You suggest the creation of a health research council. Should the council develop a strategy for research and largely commission work or do you feel that most of the work undertaken through the medium of the health research council should be on the same basis as that by the Medical Research Council?*

A health research council would act as a broker between those responsible for dealing with the health problems of the population and those whose task it is to add to our knowledge about these problems and how they might be ameliorated. It would therefore need to work in *both* modes, that is identifying under-researched areas where research seems possible and then "tendering" for bids from researchers to do such work, but also responding to bids from interdisciplinary groups of researchers who think they can make progress in a field which *ought* to be of some concern to practitioners or policy-makers, whether or not they recognise it as such. In general, the pro-active role should dominate, leaving the single-discipline-based proposals to the existing research councils.

Question: *What size of budget would such a research council require in order to be able to have a chance to show that it is worthwhile within your time scale?*

To justify the awful prospect of yet another research-funding bureaucracy, and the inevitable overhead costs thus entailed, a Health Research Council would need (apart from any existing commitments it might take over from other bodies) an annual budget of *at least* £10m in the medium term (that is say by five years after starting operations) though in the early years it would not be *able* to spend wisely on this scale, and I would think that a build up to around £20m a year, in a steady state after 10 years, would not be disproportionate to the magnitude of the tasks if faces (it is only about one-tenth of one per cent of the amount spent by the NHS each year).

Question: *Are there adequate means of assessment of the effectiveness of medical procedures, in particular, in new technologies? In what way should the arrangements for the introduction for new technologies be reformed? How can a more critical appraisal of both current and new technology into the health services be made, particularly in terms of value for money?*

(i) At an intellectual level we are not yet exploiting all the evaluative possibilities, and the priorities in evaluative effort seem entirely wrong.

(ii) The essence of the problem is:

1. There are commercial interests strongly promoting the adopting of such technologies.
2. There is professional prestige to be gained by practitioners from being "at the forefront", and job satisfaction to be got from having a novel and interesting change of practice to master and experiment with.
3. It takes time to carry out thorough investigations of such technologies (for example by randomised trials with large numbers and adequate time to follow-up medium term outcome for patients).
4. In the meantime (1) and (2) have ensured that the technology is well diffused, so that (3) turns into the professionally unpopular activity of casting doubt on what people are already doing (and so already spent a lot of time, effort and money on), and so they resist such scrutiny (and usually have effective power of veto over it).
5. The evaluative research proposals or programmes are refereed by "peers" who are also more excited by the technical and scientific aspects of a technology than by its likely contribution to the health of the community. [For an interesting case study, look at the attempts to evaluate the cost-effectiveness for the NHS of Magnetic Resonance Imaging].

(iii) A possible way forward (with no guarantees of success!) is:

Manufacturers should be required to put up (say) 10 per cent of the gross value of their product sales for (say) the first 10 years of its use into the Health Research Council to finance the evaluation of such technologies by independent groups appointed by the Health Research Council. Anyone using the technology during this phase must do so according to pre-specified protocols, with full disclosure of data, etc. Such evaluation must go beyond issues of safety and efficacy, and include cost-effectiveness (effectiveness meaning the impact on patient's health). The health research council could release manufacturers and users from this obligation only when they are satisfied that the technology has proved its worth.

Question: *Should methods of assessment of priorities for both prevention, treatment, and care, to take into account economic considerations, be developed?*

Priority setting in the NHS must pay regard to both benefits and costs. "Costs" are the benefits foregone by other people. Benefits are extensions in life expectancy and improvements in quality of life. We know surprisingly little about the benefits of most treatments *in these terms,* most clinical trials measuring only survival at some arbitrarily chosen dates and some clinical parameter (for example blood pressure, tumour size) rather than its impact on overall quality of life.

There is a massive research task to be undertaken here, both theoretical and empirical, and it needs to be multidisciplinary, so it would be a distinctive, far reaching and challenging task for a Health Research council to get its teeth into, since it has both immediate relevance and long-term development potential.

Supplementary Note on the Evaluation of Magnetic Resonance Imaging MRI

1. After CT scanners, MRI is the next phase in diagnostic imaging, which, instead of relying on X-rays, relies on observing the behaviour of protons in the human body when placed in a magnetic field. There are now about two dozen machines in the United Kingdom (not all in the NHS), they cost about £1m each, are capable of about 2,000 investigations a year, each of which costs about £150. Scientists want to know whether they are capable of further technical development, clinicians want to know what they are better at doing than any existing diagnostic technique and NHS managers want to know if they are good value for money (as substitutes for CT, or as an additional facility) and how big a catchment area you need to ensure that the cases that are referred to MRI for investigation are those where patients will benefit sufficiently in health terms to justify the diversion of resources from proven therapies (for example hip replacements, or coronary artery bypass grafting).

2. The DHSS and MRC set up a Co-ordinating Committee in 1982 to provide advice on the clinical usefulness of the technique and to oversee and co-ordinate clinical trials. This Committee operated under the auspices of the Cell Board of the MRC, and late in 1985 that Board decided to concentrate its support for MRI at only a few centres with strong research programmes. To select the chosen few a comprehensive review of the entire programme was carried out in 1986 and 1987. There terms of reference were to advise on

(i) the scientific merit of the work in progress.

(ii) its contribution to the overall MRI clinical evaluation programme and

(iii) the potential suitability of the centre for further Cell Board support for technical development and for the clinical evaluation of MRI.

Note that there was nothing in these terms of reference concerning the problems faced by NHS managers (for example it is *not* concerned with the problems of the Health Service as such).

3. This Review Sub-Committee came to the following conclusions, which were endorsed by the MRC Cell Board.

"(i) high priority for future support for MRI research should be given to *technical developments* with direct relevance to biomedical and clinical research.

(ii) high priority should be given to applications of established MRI methodologies to some specific biomedical and clinical research projects—*scientific applications.*

(iii) *clinical evaluation* studies did not at present warrant as high priority as (i) and (ii), and

(iv) there was little need at present for any further support for *economic evaluation* of MRI."

As background to these conclusions it might be noted in 1985–86, the last year for which complete figures are available, out of the Cell Board's total committed money of £6.2m, £.752m was spent on clinical evaluation of MRI, £.147m on other aspects of MRI, and £.537m on MR Spectroscopy. In that year less than £.050m was spent on the cost-effectiveness of MRI, and in each subsequent year about £.055m has been spent (on a project which I direct, and which has just been reviewed and recommended for extension for a further year). The terms of that extension are, however, of some interest. They are that we concentrate almost exclusively on 4 clinical trials and cut out the monitoring work on cost-effectiveness which we had been working up at Bristol and Cambridge (where newly installed machines have just come on stream, and where the NHS is seeking help to decide whether or not it should eventually take them over).

4. The Review Sub-Committee's report observes, in passing, that, with regard to economic studies, "the Health Departments' needs should be taken into account in planning additional studies in this area" but passes the buck to the MRC's Health Services Research Committee which "should be asked to provide

advice to the Cell Board, or consider directly, any future applications in this area''. (The MRC's Health Services Research Committee has about £.17m available for new projects each year).

5. I am obviously biassed, but the members of the Select Committee are not, and if you are looking for a good case-study that will reflect the political, intellectual, organisational and financial problems of evaluating a new technology, where better to look than at MRI.

KEY REFERENCE

Medical Research Council Review of Clinical Evaluation of Magnetic Resonance Imaging 1986–87.

Obtainable from: Dr A C Peatfield, MRC Office, 20 Park Crescent, London, W1N 4AL.

Examination of witnesses

Professor ALAN MAYNARD, Director, and Professor Alan Williams, Centre for Health Economics, University of York, called in and examined.

Chairman

1498. Good afternoon, gentlemen. Thank you for coming along and giving us the benefit of your time, advice and experience this afternoon. We are very glad to have the opportunity of questioning you in connection with our Enquiry. May I start by asking if perhaps you would explain to us the function of the Centre for Health Economics?

(Professor Maynard) The Centre for Health Economics at York was created in 1983 as a joint venture of the Economic and Social Research Council and the Department of Health and Social Security. We have funding from both those organisations and we also have funding from private trusts, from commercial interests and from the National Health Service. The idea was that it should act as a focus for research in England in health economics. On our previous track record, while we have been deeply involved in both research and in training health economists, this was a natural development from that base.

1499. Is it the only centre for health economics?

(Professor Maynard) The Scottish Home and Health Department has a unit in Aberdeen attached to the Department of Community Medicine, which is much smaller and has about six or eight staff, I believe. So we are by far the biggest. We have between 20 and 30 economists in the Centre at York University.

1500. To what extent do you relate health economics to the health services? Is it the same thing or different?

(Professor Maynard) We are doing very much more long-term research, trying to develop methodology and new methods of inquiry to be used in determining priorities in health rather than in health care. Quite soon after we first started it became apparent that outside interest in the National Health Service was very considerable. We did not have the capacity to respond to that demand, partly because much of our research, for instance, from the DHSS, is contract-based on the Rothschild principle. Therefore, what we have done is to create an organisation alongside the Centre, which we call the Health Economics Consortium. This is essentially a free-standing organisation with financial backing from three National Health Service regions: the Northern region based on Newcastle, the Yorkshire region and the Trent region based on Sheffield. They work on commercial principles within the university; that is, they are doing work for district and regional health authorities, essentially trying to apply the concepts that have been developed on health economics and get those out into the field. We have a good relationship with them, because in many ways they are initiating interest and demand for health research and health economics as such.

1501. Do these district and regional authorities look on you as an in-house facility of the NHS or do they look on you as a service which is invited to compete for their business?

(Professor Maynard) They are tending to regard us as almost in-house (that is, part of their organisation). I think that that has worked out quite well. The basic problem that we face, which comes up in some of the evidence that we have submitted, is that demand is greater than our capacity to meet it at times, particularly in the consortium. We have significant problems recruiting staff. That is particularly so in the specialties such as health economics.

1502. With that in mind, why is it that the Health Service, in its various regions and districts and so on, seem to have been employing outside consultants to quite a high degree? Why do not they employ your facilities, and why do not you expand your facilities to meet their needs? They are paying out subsidies which might well come to you, might they not?

(Professor Maynard) Yes, I think that is true. One has to distinguish between two sets of utilisation of management consultancy services by the NHS. Firstly there is the central one, and then there are the regions. At the central level—that is, the Department of Health, of which the remit runs to England, of course—they have expanded considerably their use of private consultants in the period since 1979. I think it started off round about £700,000 and it is now about £19 million in the last Hansard response. So there is that set of activities at the centre. Until recently the Centre (DHSS) has

[Chairman *Contd*]

been rather reluctant to come to the research units and ask them if they are interested in principle, let alone ask them to compete for contracts. There are some indications that that is beginning to change. So I do not know whether that was a matter of deliberate policy, or whether we were not efficient enough selling our wares with the Central Government or whatever. Maybe it is a combination of those and other factors. At the regional level the amount of money going into the consultancy services is very difficult to quantify, but it certainly seems to be quite significant. We feel, with regard to the consortium and working to three NHS regions, that we have bitten off as much as we can chew in the short term, because we have a really significant problem—it comes back to this recruitment problem—of actually staffing up that unit. We advertised, for instance, for a director at professorial rank, and we only got about four or five applications.

1503. Was that because they would not see a long-term career opportunity in the Centre? The consultants who have been brought in do not seem to have any inhibitions about taking on these major contracts and then recruiting the staff to do the job. Do you have any comment on that?

(Professor Maynard) There are many factors. The number of health economists is very small. The stock of economists working in the service and in research institutions has grown very slowly and recruiting the more senior staff is extremely difficult. You are trying to dip into a very small pool of people with expertise and interest in that field. I guess that if you were very cynical, economists probably like to spend their time worrying about unemployment and inflation which they cannot influence, and we have not managed to attract them into health.

1504. It seems to some of us that the effort devoted to health economics, health services research, whatever you like to call it, seems to be very small relative to the size of the organisation of the National Health Service and the enormous sums of money which are being spent. Does this seem to you to be a correct diagnosis?

(Professor Maynard) It is absolutely miniscule, and it has grown up with great difficulty and with great perseverance.

1505. Why is that, would you say? Is there resistance to it, or lack of understanding of it, or what?

(Professor Williams) I think that in the early days people did not see what role economists had to play in these matters, because they had a very conventional view about what economics was about: economics was about inflation, unemployment and that kind of thing. Therefore, first of all one has to establish that the discipline of economics, the way of thinking of economists, has actually got something to contribute. I think that that was a selling job which occupied us for most of the 1970s. In the 1980s the problem has been rather different; it has been to recruit people who can actually do the practical work, because once you have convinced people in principle that there is something useful you can do, you have still got to deliver the goods in practice. I think that is the stage that we are now at. By that time, of course, there has been very little training of people in the skills business. It takes 10 to 15 years to produce an experienced health economist who can stand up and talk to health service managers and, still more, talk to clinicians in a fairly tough way and not be easily pushed around. If you send in 25 to 30 year olds to do that kind of job they just get brushed aside. So there are real problems, I think, in a fairly young group of people.

1506. Not if they come from Price Waterhouse or somewhere like that, apparently!

(Professor Williams) I do not know. I have no experience of that, my Lord Chairman. I cannot comment on that. Perhaps you should tell me about that!

1507. I say it in all seriousness, because it seemed to me that you have that knowledge, you have that experience, and I am rather surprised that more use is not being made of it and it is not being built up more.

(Professor Williams) Well, I think our problem now is not that not enough use is being made of our skills. I think sometimes the wrong use is made of our skills, that is to say, economists are seen as a rather peculiar kind of cost accountant, and people first of all make up their minds what they are going to do, then bring an economist in to find out how much it costs. That is not the role we see ourselves playing. Not at all. We want to be in at the beginning of the analysis. We want to play a role in measuring benefits, talking about objectives, thinking about alternatives, what options are there and so on. We see ourselves in a much more creative role and I think often we are not properly used by people, but at the moment I do not think there is any problem about us being under-employed. I think the main problem is how do you get more people in and how do we attract more senior people, that is to say, not wait for fresh graduates to be trained, though we need to do that as well, but attract experienced people from other branches of economics to apply their skills to health economics.

1508. Would you see a membership of your team for a period as being a good apprenticeship, or shall we say, a good training for future Health Service managers?

(Professor Williams) Undoubtedly.

1509. Is that not something that ought to appeal when the Health Service seems very short of experienced managers?

(Professor Williams) Yes, but think how many of us there are and how many of them there are.

[Chairman *Contd*]

1510. Again, a reason for it to appeal, surely?

(Professor Williams) There are 30 of us at the moment, and there are 192 health districts. You cannot put economists into Health Districts in isolation. One of the reasons why this consortium at York has been so successful in these three regions is the fact that although many of the regions and districts would have preferred to have gone it alone and hired their own economists in-house, they cannot get anybody, and those that did found that their economists soon went because being an isolated economist in that situation is a very difficult role to play, whereas at York they have a lot of support from the rest of the group in the consortium, so that being out at work in these districts for short periods is quite manageable. But I think that the prospect of us being a generalised training ground, at our present level of operation, for the Health Service generally is really not on. I think we can only be very very selectively regarded as such.

1511. Could I perhaps switch the questioning to this: you suggest the creation of a health research council.

(Professor Williams) Yes.

1512. On the other hand, you have submitted two papers—thank you very much, they were very interesting—and I presume you are not divided in your views but Professor Maynard says "A sensible division of labour between the DHSS and the MRC and the ESRC might be, MRC research to be done in clinical settings, ESRC research in non-clinical areas and DHSS facilities for national in-house management"—whereas Professor Williams advocates in his paper a health research council. Are these two different views?

(Professor Williams) I do not just advocate it. I also specify a role and the importance of that role lies in the difference between a health research council and a Health Services research council. That is a very important distinction to draw to begin with, and the second thing is——

1513. Just make that quite clear: what is the distinction you see there?

(Professor Williams) The distinction is that there are a lot more factors affecting health than the Health Service. In fact, you could almost see the Health Service as the sort of residual element that deals with the health problems often created elsewhere in society, so when we look at policies about alcoholism, smoking, road safety, environmental hazards, and other matters to do with lifestyle like housing, and poverty, there is an awful lot that affects people's health that the Health Service is then expected to put right; somehow or other, so if you look at policy with regard to health you have got to look at a lot more things than just the Health Service. I think that is the difference, so it is a much wider agenda. The second thing is that once you begin to see that as the agenda then the dominance of the medical input into research begins to recede, because we are not just talking about clinical work and what needed to support clinical work in the Health Service. We are also talking about the problems of persuading people to change lifestyles. We are talking about the economics of running services. We are talking about communication problems within systems. We are talking about how functionally divided bureaucracies cope with problems that run right across them as with things like the shift from hospitals to community care, for example, which is a current minor disaster area, I would say, from the point of view of health policy because we are having to look at the co-ordination with personal social services, housing, and a whole lot of other things, so that is a very big shift. The other big element is that I think that kind of work has to be multidisciplinary. It is not work that any one group of us can do by ourselves, you know. The economist, sociologist, the medical researcher, epidemiologists—none of us can do it by ourselves. It requires multidisciplinary groups. Existing research councils have not got a very good track record in that respect.

Lord Flowers

1514. Chairman, I am fascinated by what is being said about the health research council in the broadest sense of describing it, but do the witnesses not think that would be seen by any government as an entirely politically—based, politically—motivated activity? You must remember that the Social Science Research Council as it used to be called fell foul of charges just like that, and yet what you are proposing is even more politically based, it seems to me. A research council as we know it in this country, a medical research council or an agricultural research council or whatever, is a body set up to look at questions almost all of which can be scientifically defined, and not defined in terms of political objectives or anything of that sort.

(Professor Williams) I think the question of what causes ill health can be scientifically defined.

1515. I think that would be the test of your proposals in a political context.

(Professor Williams) But it can, can it not? We know it can.

1516. Would you like to spend a moment talking about it?

(Professor Williams) I am not saying it is easy to come up with an answer, but let us take the question "What causes heart disease?". People have been struggling with that problem, and they came to the conclusion that it is very difficult to find out precisely what causes heart disease. Is it diet, behaviour, stress and so on? That is a perfect example of a problem which is quite readily studied scientifically because it focuses on a particular disease. The role of smoking is a more pervasive cause of ill health in society, where again you can apply the same scientific methods of enquiry. Other might be: What role does housing have? What role

[Lord Flowers *Contd*]

do working conditions have? What role does poverty have? And so on. It is perfectly possible to formulate those problems in ways that are, as you say, scientific. Now, I think where the Governments have got upset about it, and where they think it has become political, is because after these studies have been conducted, in a fairly scientific matter, somebody says at the end "Well, so what? What are you going to do about it?" and the answer might be that you have got to do something about housing, or poverty, or about people's diet, and then you may say "Well, that is political". Well, if it is political it is political, but if you care about people's health it is something you have got to face up to if it follows from a careful analysis of the situation. But I do not think it is *party* political, if that is what you mean. At least, in my mind, it should *not* be. If the parties share the objective of improving people's health, which they certainly appear to do.

1517. I am not doubting what you are saying, and I agree with you as a matter of fact. I am doubting whether you would get any government in practice to accept what you say.

(Professor Williams) We only influence governments by arguing a case strongly, and I am certainly not going to back off arguing a case strongly by the fear that no one will act on it!

Chairman

1518. Perhaps that leads on to our next question: what sort of budget do you think research councils should have? Where from, in one sense?

(Professor Williams) In one sense the sky's the limit, but that is not a helpful response. When you think how much is spent on the Health Service alone, we are talking about £20,000 million, and if you spent 1% of that on the kind of research I am talking about it would be about 20 times more than is being spent at the moment. I think I would look at the problem in a different way, and ask: what is the fastest rate of growth of this kind of research that we could handle, given the human resources that are available actually to do the work?" That, it seems to me, is the real constraint, and I think it is a judgment about how fast you could go without the whole thing falling flat on its face, because you just could not get the work done to an acceptable standard. I think that is the way to look at it. There has to be a fair amount of guess work in that, and I am not sure I am the best person to make that guess, but I would say, roughly speaking, if you were spending something like £20 million after about 10 years on new things that are not happening at the moment, that is probably about the limit of expansion that the system could cope with, but I do not think I am the best person to answer that question, really.

Lord Flowers

1519. The answer is 7 or 8 per cent per annum based on the physical sciences of some years ago, if I may suggest it.

(Professor Williams) Is that right?

Chairman

1520. This would presumably be new money. You would not say the priorities are wrong and money should not be spent where it is being spent, would you?

(Professor Williams) I might. These two propositions are not mutually exclusive. I would say the money is being spent wrongly at the moment. Far too much money is being spent at the moment on scientific and technical aspects of new developments, and far too little evaluating their cost-effectiveness. I am quite clear in my mind about that.

1521. The cost-effectiveness of what?

(Professor Williams) Of new technologies and things that are coming on stream.

1522. And new treatments?

(Professor Williams) Yes. I have been deeply involved over the past three years with magnetic resonance imaging. I have left a note with your Clerk about it, because obviously it is a matter about which one cannot go into detail here. I think that that would be a very good case-study of the difficulties—political, financial, organisational or intellectual—of evaluating new technologies as they come on stream, where the interests of the knowledgeable and the influential people are, of course, in the technology itself. It is very exciting and it offers new opportunities. There are strong commercial pressures towards its adoption. Evaluation takes quite a long time. By the time evaluation results come in, which typically begin to cast doubt upon the early hopes and expectations, the thing has already got a firm toehold, people have invested a lot of time and energy mastering the technique, they have spent a lot of money on it and they do not want to be made to look foolish. So evaluation, instead of being a rather neutral thing that takes place before people get hooked, becomes a lot of sourpusses casting doubt upon it.

1523. People are afraid of it?

(Professor Williams) Yes, and often they have effective power to block it as well, because you cannot do such evaluation without access to patients, and the clinicians involved can control access to patients and argue it is unethical because this is now well established and so on. It is very difficult, in every sense, to do that kind of work. However, that does not mean that we should not be putting more effort into doing it, in my view.

1524. Is the Centre doing that sort of work?

(Professor Williams) A little, but it is very difficult to get it funded. We are doing as much as anyone, I would say.

Lord Kearton

1525. I was interested in what you said there. You are really saying that magnetic resonance imaging is a solution looking for a problem, are you not?

[Lord Kearton *Contd*]

(Professor Williams) I would not go quite that far. What I would say, however, is that it has been looked to by many people who are expecting it to be a solution to a problem, and that expectation is not really well founded. That is what I would say. I would not go quite as far as you in that respect.

1526. I must say, when I saw some of these myself it was my own feeling that the technique was marvellous, but people were not absolutely certain what they were going get out of it. There is enormous capital investment behind it. I want to come back to one of your earlier statements. It surprised me when you said that it took 15 to 20 years to make a good health economist. You must be unique amongst the professions to have such a long apprenticeship as that.

(Professor Williams) No, that is not what I actually said. I said that that was the length of experience needed to get them to the seniority where they can stand up to managers and clinicians. I think that the intellectual skills that they need they can get much more quickly. It is the poise and the weight to deal with managers and clinicians.

1527. You want 35 year olds who are already experienced economists to move into this field in two or three years?

(Professor Williams) That is what we need to do, and that is what we are failing to do.

1528. It seems to me that the whole thrust of your answers is that health is really a matter of lifestyle and genetic inheritance.

(Professor Williams) Partly.

1529. And there is not much to it other than that?

(Professor Williams) That is quite a lot!

1530. What you are saying is that fundamentally it is quite a lot, but that is most of it?

(Professor Williams) Yes. Then the question is, what can we do to ameliorate the effects of those.

1531. It has been commonplace for years and years that really spectacular changes in public health and in public lifestyles were the introduction of pure water, sanitation and so forth. In recent years we have introduced all the marvellous drugs and whatever, but at the end of the day you have added only 5 per cent to the quality of health, have you not?

(Professor Williams) Yes.

1532. We have come across the question, to what extent are we talking about actual living and the quality of life one lives, have we not?

(Professor Williams) Yes, that is a very good question. I like it! I have spent a lot of time on that.

1533. If you are a health economist you must be spending a lot of time on this.

(Professor Williams) I am.

1534. It is rather like the famous Roskill Commission on the third London airport and an analysis of the cost benefits of Norman churches, is it not?

(Professor Williams) Except that what we are working on is rather more important than Norman churches. Let me make some points about this. It is my pet hobby-horse. I am glad you introduced it into the discussion. As to the measurement of the quality of life, the interesting thing about that, it seems to me, is that because death, as they say in the clinical research field, is a "hard end point" (and I think they are right, it is a hard end point), it tends to dominate the clinical research as a measure of outcome. As you said, there is more to life than survival. As the rather dramatic improvements in health which enhance people's life expectancy very considerably have been mopped up and implemented, we are now up against the much tougher problem that we cannot really expect these historically spectacular improvements in life expectancy over the last 100 years to go on. That is not to say that we will not get some more, but not such as we have experienced. So now we are much more concerned about evaluating the efficacy of different health-promoting and therapeutic measures upon people's quality of life. If you looked at any clinical trial or any medical research you would be hard put to find many that even mention that, let alone do so in any systematic way. It is a real indictment of the medical research that has gone on in the last 50 years that it has paid so little regard to that. The health economists have come into that territory like fools rushing in where angels feared to tread. They have said, "This is an absolutely central feature," and have played a very big role in pushing that work forward, even though, I will confess here, I do not think we are necessarily the best qualified people to do it. However, Nature abhors a vacuum, and if this needs to be done, economists are not averse to jumping in and having a go, and that is what we are doing. I think it is a very important consideration.

Chairman

1535. In view of the importance you see for that type of work in the future, how do you see that the shortage of trained manpower to which you referred can be met? In other words, how do you see that adequate resources could be built up to meet the problems which you outline?

(Professor Maynard) Let us take a specific example. In our efforts to develop quality of life measures we are slowly capturing some marginal, additional resources, and we are having significant problems recruiting staff to do the work that those resources could fund. So clearly if we moved, shall we say, to the "brave new world" of Alan Williams, where we had a Health Service and a Health Research Council with additional funds, one of the priorities would be the development of human capital and the skilled manpower to do it. However, at the present time it is very difficult to get that work done. At the margin it is not the funding problems, it is the human capital problems, it is the

[Chairman *Contd*]

people with the skills to do the developmental work, and then the ability to hold them. So our levels of remuneration that we can offer are relatively poor and we have not got a career structure. We can offer most staff only two-year and three-year contracts.

1536. Your career schedules and salary scales are dictated by the university scales, presumably?

(Professor Maynard) They are indeed, and most of our staff in the Health Centre for Economics are on short term contracts (a few of them are on contracts with 3 year roll-ons) of 2 or 3 years and many of the members of staff worry where their crust is going to come at the end of their contract, which does not improve the quality of work we get from them, as you may imagine.

1537. Do you see the staff being medically trained as background, or not necessarily?

(Professor Maynard) I think I would go back and agree with Alan Williams that a variety of skills are required. I do not say that any one skill is *primus inter pares*. I think all of them have a very crucial role and it crucially depends on the questions you are addressing as to what mix of disciplines you want.

Lord Erroll of Hale

1538. On your "hobby horse", if we may call it that, and a very attractive one it is, do you envisage the centre looking at the research that is being done at present? You mentioned more research into lifestyle and that sort of thing, but would you, for example, dip into the MRC and have a look at what they are doing, and whether it is worth having it systematically evaluated, for example, or would you concern yourself solely with what you already described as the work?

(Professor Williams) When you say "centre" do you mean ours at York or this prospective health council?

1539. Your "Brave New World".

(Professor Williams) Yes. One does not want to encourage a new body to reinvent the wheel, so I think it is quite important to begin with to see what has already been done and who has been doing it, so you can build on that and tap those skills, so one would certainly start by looking at the kind of things that have been done on quality of life measurements and so on within clinical trials, and there is virtually no such work—I am not saying it does not exist, but it is a very small minority out of most of the work. Someone would start on that, and build outward from it. If you are going to get clinicians interested in using these kind of measures in their day to day practice and collect the data it has got to be something they feel that has some usefulness for them, and which they can understand; it must not be too abstruse. It has to be things patients understand, because this information has to be collected from patients, of course, so it has got to be set up in such a way that it relates to their interests. We have had some very interesting experiences using very simplified questionnaires eliciting the quality of life from people under different regimes, and what you are always fearful of is that people will not bother with it and will simply say "Oh, another questionnaire, what do they want this time?" but that is not the typical response. The typical response is "You know, this is the first time anybody has asked me these questions. It gives me an opportunity to say things, to get things off my chest that no one has shown any interest in" and it has proved from a scientific point of view sometimes to be a big disadvantage to give people a questionnaire because it then turns into a therapeutic intervention and it is supposed simply to be an observation of what is going on. Sometimes it turns out that it acts as a vehicle of communication between patients and the practitioners who are treating them, which is not what it is supposed to be. So I would say we have to build on what is already there, but we have to make a very determined attempt to put that issue centre stage, and it has not been centre stage hitherto.

1540. So you do not think your "Brave New World" could in fact be grafted onto the existing world of medical research in its various forms?

(Professor Williams) No, I do not think they see that as a central issue for them, or indeed for anybody. That is the problem.

Lord Kearton

1541. Use of tranquilisers for the last 25 years has been quite extensive. Has this interested you? That tranquillisers, valium and so forth, can give relief for a number of people but then you get to the stage where now a number of millions are addicted to them and therefore the long term quality of life comes into it? Is that the sort of thing you are talking about?

(Professor Williams) I have not personally worked on that, no, but it is the sort of thing one could certainly look at, the extent to which the use of tranquilisers to give people short term relief in the end reduces their coping resources, so in the long term they are worse off than otherwise. That is a very interesting issue. I have not actually worked on it but it is certainly the sort of thing I think would be of some policy interest—the extent to which one should reach for the drugs cabinet as opposed to, for example, helping people with counselling and other kinds of support of that kind, as an alternative.

(Professor Maynard) Counselling is a classic example of where there have been attempts to measure quality of life, for instance, after breast cancer surgery. In the cancer areas one gets reasonable data about mortality survival but the quality of life may be very uneven and it is those areas where one wants indications not just of duration of survival, but also quality of survival. I think Florence Nightingale in 1863 at St Thomas's was wanting to measure hospital output by three

[Lord Kearton *Contd*]

categories: dead, relieved and unrelieved, and we still do not have that sort of measurement at all.

Lord Hunter of Newington

1542. What do you think of managers in the Health Service?

(Professor Williams) I think like most people they are a very mixed bunch. I think they have an excruciatingly difficult task and I think that they need really a great deal of resilience to cope with the pressures that they are under, and I think what is interesting about them for me is finding out what they see as the criteria by which they should be judged, and the pessimistic ones talk in terms of holding the system together, and the more optimistic and stronger ones talk about moulding the whole system in a particular way. I think it is not a job I would personally wish to do, I will say that. I think it is a most unenviable job and I think they need a great deal of support.

1543. You are not telling us in a sort of global look what you feel the vital role of managers is. For example, what is the role of medical managers?

(Professor Williams) Well, I did not really come prepared on this subject, I must confess, so you are getting an off-the-cuff reply on this, but I think there are two distinct views I observe: one is that it is all to do with conflict resolution, so they are there managing conflict. I think that is a hard thing to do, and useful, but I do not think that is the valuable thing to be doing. I think the valuable thing managers have to do is get people to face up to decisions and to prepare the ground for those decisions to be made intelligently. That may actually generate as much conflict as it resolves.

1544. You think their role is vital?

(Professor Williams) Absolutely, yes.

(Professor Maynard) They have really got to be involved in prioritising the services.

Chairman

1545. If they are vital, should there not be some steps taken by the Department to breed their own managers in-house as distinct from having to bring them in from outside?

(Professor Williams) The DHSS?

1546. Yes.

(Professor Maynard) God forbid!

(Professor Williams) I do not think the DHSS is the best body to train managers.

1547. Why should you bring in managers from outside to manage a health service about which they know nothing?

(Professor Williams) Well, I think it is a nice issue. If you are a manager you need to know something about the organisation you are in but you also need to know something about management, and it is a nice judgment as to which of the two comes first. I think in the short run a knowledge of the Service is a help, but it conditions you to think the way people in the Service have always thought. The advantage of coming in from outside is you think differently, but that can also be a big snag because you may not be sensitive to the situation within the Health Service, so I do not think there is any simple answer to the questions whether outsiders or insiders make the best managers. I think it is a decision you have to make about the particular people.

1548. But if the managers have been trained through a school such as your own centre, presumably they would be trained to be so minded and trained to challenge the *status quo*?

(Professor Williams) We do not train managers. What we reckon to teach is analytical skills and managers certainly need those, but I think they need a lot more besides.

Baroness Warnock

1549. Is it your view—and from your immediate reaction to the suggestion that the DHSS should produce managers I inferred that it *was* your view—that one just has to write off the DHSS as a kind of dead weight against which all imaginative management, all imaginative research, everything, has to fight? Is that true, or do you think there is some hope? You said "God forbid" as if that was just something you could not contemplate.

(Professor Maynard) The problem with the Department of Health is they have actually delegated all their training activities to the NHS Training Authority, so that raises the question of the efficiency of that particular organisation.

1550. But could that be improved?

(Professor Maynard) Oh, I think yes. Like any other human institutions it could be improved considerably, yes.

1551. Well, I do not mean could it be better, but literally could it be improved, do you think, or is it too difficult to break into and produce some criteria for good management to be acceptable by the NHS management?

(Professor Maynard) I think there are sets of skills to which the NHS trainees—that is, the higher management trainees, the people who are selected from the universities—are not exposed. That is regrettable. The amount of time they actually have to contemplate economics, economic analysis and health research is very, very small. They tend to be placed in particular authorities and have to learn by sitting at somebody's knee rather than being given the skills and being told to go out and solve particular problems. The training process of those people could be improved.

1552. Could it be improved, do you think, by an injection of your sort of economic expertise?

(Professor Maynard) We are biased, I think, but yes.

[Baroness Warnock *Contd*]

1553. I agree with you absolutely, but I think that, in a way, that would be a new use for units such as your unit, would it not?

(Professor Maynard) Yes. We tried to break into that, in the sense that I have approached some people in the service because, as an initial step, I was thinking that maybe what we should do is offer them a one-week or two-week module where we actually offer them some health economics and try to expose them to these alien beings. However, I find it very difficult to get that through the bureaucracy.

(Professor Williams) However, it would be only one of the ingredients, you understand. We are not arguing that this is the magic wand that turns people from bad managers to good managers; it just teaches one other restricted range of things which they need, one of which is analytical skills.

Baroness Warnock] But analytical skills developed not in some school of platonic metaphysics but, I would have thought, in an economics setting. I am not suggesting that there could be a magic wand, but there could be step-by-step improvements.

Lord Kearton

1554. Arising from that, would you like to give us one or two examples of your successes?

(Professor Williams) The trouble is, as soon as you have cleared a hurdle you forget about it and you are conscious of the next one which seems even higher. The thing is, at a specific level one can point to studies which we have done which have influenced the way people have made decisions. That is one level. That is a very narrow level. I do not think that that is the most important thing we have done. The most important thing to which we have contributed, amongst many other people, is to get these issues about cost-effectiveness firmly on the agenda, and not in a defeatist way, but in such a way that you can actually make progress with them. I personally feel that the world of discussion about health issues that I participate in now is totally different from what it was 10 years ago. It may be that *our* role as economists in this has been quite small, and that the role of slower rates of growth in the economy generally has really been much bigger. However, I do think that the one good thing about our role is that we have something constructive to say about it, whereas it is very easy to get defeatist in the face of resource shortages and so forth.

1555. What I have in mind is that you mentioned that the Trent region is one of your customers. When we were at Sheffield we found that they have obviously been having internal discussions about whether they should supply a third cardiac surgery unit. They were doing 150 operations per million of population, whereas the DHSS thought that 300 should be the right level (and it is much higher in America).

(Professor Williams) I had a go about that with respect to the coronary artery bypass grafting specifically. Coronary artery bypass grafting depends upon a piece of information which nobody had, which was whether the patients who are not getting coronary artery bypass grafting are manifesting that disease in such a way that they would benefit most from it or in such a way that they would not. All we know is that we have people waiting, but we do not know enough about whether these people who are waiting are people who are potentially great beneficiaries or people who are only marginal beneficiaries. Therefore, it is hard to know whether you should expand those or not. So you finish up saying, "Why don't we seek out all this additional information?" and then we can decide.

1556. How would you describe a "marginal beneficiary"?

(Professor Williams) For example, in the case of coronary artery bypass grafting which is dealing with the treatment of angina, somebody with only single vessel disease and moderate angina would not benefit very much from coronary artery bypass grafting compared with what drug management would do.

1557. In other words, his lifestyle enjoyment would be much the same as before?

(Professor Williams) Not very different. When you consider that coronary artery bypass grafting costs £3,000 or £4,000 more than drug management, the cost of that small improvement is disproportionate. Unless we know who the people are on this waiting list, from that point of view we really do not know whether we should expand or not.

Chairman

1558. Did the Trent authority ask York to quote for the work on cardiac surgery which was placed with Price Waterhouse?

(Professor Williams) No.

Lord Erroll of Hale

1559. Would the sorts of activities which you have mentioned to Lord Kearton be the sorts of activities which your proposed health authority would embark upon?

(Professor Williams) I do not see why not.

1560. The Government has decided to abolish free eye testing. Critics say that that may lead to a considerable deterioration in eyesight, because people will not have their eyes tested until their eyes have deteriorated so much that they really have to go and pay for an eye test. Would that be a similar kind of activity that the health centre might undertake? Has the Government ever thought of investigating whether there is anything in that criticism or not? It is quite serious, in that perhaps a million people are going to scrap eye tests to save money, and half a million of those people end up with glaucoma or unnecessary cataracts and infection.

[Lord Erroll of Hale *Contd*]

(Professor Williams) The general proposition of economics which I think we would always work on is that if you charge people for something someone is going to be deterred from using it. The question then is, who is deterred? If it is people who are not at great risk who are deterred, and the money is put to some very valuable alternative use, well and good. However, if the people who are deterred are, say, older people who are more at risk of these things, then you would be much more worried about it and you would think about the risks being taken with people there. The only way you could find out about it is by setting up some systematic monitoring over a couple of years to find out what the pattern of eye testing has been amongst people, by doing some survey work and finding out what has actually happened. One can see that there is an argument on both sides which we are never going to settle at the level of polemic; we can only answer it by collecting the evidence, and that would be a very good job to drop into the lap of a health research council.

Chairman

1561. As to this type of work to which you are referring and which we are discussing, what level of expenditure would be required in order to collect the necessary background statistics?

(Professor Williams) It depends on the problem. Personally I am not greatly enamoured of all-purpose, all-singing, all-dancing systems. Going back to an earlier point about how scientifically you can do it, it is much better to formulate a problem as precisely as you can and then collect the information to be directed at that problem. Therefore, it depends on the range of problems you take on board. I think that that is the answer to your question.

Chairman] Could I perhaps draw the questioning into another area? It may be that the medical members of the Committee could pursue this. I would like to pursue a little further this question of the adequate means of assessment of medical practice. I do not know whether Lord Rea or Lord Perry would like to start on that.

Lord Perry of Walton

1562. I do not know if I can. I was going to ask a much more general question. I can understand measuring the quality of life as an alternative to measuring money. How do you translate the one into the other?

(Professor Williams) I would not translate it into money, because I do not think the Health Service is in the business of translating health benefits into money. The way I would do it would be as follows. I think that this partly bears on your question as well, my Lord Chairman. Assume that we are measuring the effectiveness of some intervention which could generate for somebody an additional year of healthy life expectancy. Then we use as the measure of benefit "additional years of healthy life expectancy". That is a very good measure of the outcome—it is understandable to us all. It is obviously of value to us all to have additional years of healthy life expectancy, but then we have a lot of interventions which, unfortunately, do not do that. They generate additional years of rather unhealthy life expectancy.

1563. At a cost to the Government?

(Professor Williams) It may be at the same cost—it may be less, but leaving that on one side for the moment, I would say that additional unhealthy life expectancy is valued less than healthy life expectancy. I do not mean in money terms, but subjectively. We need to find out by how much less people subjectively value additional years of life expectancy if they have to be spent in bed, or if they have to be spent chairbound or spent in pain or whatever. We need to find this out, and one area of research—psychometric research—has focused precisely on that issue: how people subjectively value these states one against the other. We can then relate them to this common unit, to compare with being healthy, and then we ask the question "How much does it cost to improve people's health by this unit, if we do it by putting more money into coronary artery bypass grafting, into kidney dialysis, heart transplants, hip replacements or whatever?"

1564. You are going to have to work at making measurements of that kind. You have to work on averages, and I would have thought that extra years of unhealthy life are vastly more important to somebody who is a creative artist than to somebody who is not.

(Professor Williams) I think that raises a very interesting issue about the ethics of the medical profession in treating people. Is a clinician permitted to favour one person over another according to how productive they are for the community, or is every human being a human being?

1565. That is not the question. With great respect you said you were going to ask the patients to determine, not the doctor.

(Professor Williams) No, I was talking about the relative value of being unhealthy compared with being healthy, but the second stage in the argument is this: the NHS has to have a policy about groups of people so we finish up with some group norm, and you are quite right—it has at the end of the day to be some kind of arrangement when we are making policy for groups of people. It is inescapable.

Chairman

1566. We do not want to get too deeply into ethics. I do not think we will get very far down that road, but I would like to spend a few minutes on this question of assessment of effectiveness of medical treatment. It was something which was talked about quite a bit during our recent visit to the United States, and of course is not awfully popular with a lot of people, because it may show

[Chairman *Contd*]

certain establishments and processes being not as effective as they might have been, but I understand it is becoming quite an active interest of insurance companies who pay for a lot of the medical treatment in the United States, and they want to make sure they are not paying more than they ought to be for the treatment provided. Therefore they are becoming very interested in the effectiveness of treatment and the cost of the same treatment in different places can apparently be significantly different.

(Professor Maynard) I think the United States developments are really quite interesting because during the '70s they were obsessed with cost containment in the health care system and trying to retain the rate of growth of expenditure, and it really was just looking at one side of the question. If you are really trying to cut down costs the best way is to spend nothing, and they were totally obsessed with spending money and trying to control the spend without looking at the outcome of those spends, and the effectiveness. Gradually, in the beginning of the '80s, there has become an increasing awareness in the United States of the need to measure effectiveness. Now, this is affecting the Blue Cross and Blue Shield companies, as you say they are beginning to cross off things from the list of operations they reimburse, because they are not regarding them as cost effective and it is also affecting the Federal authorities. In 1986 they did a very bold thing and they published the mortality rate by hospitals, and again they are publishing the mortality rates this year by hospital, and by specialism—the actual mortality rates and the estimated ones using a very simple statistical model. Such measurement is biased towards life saving procedures at the cost of therapies which improve the quality of life. Consequently the use of mortality data as outcome measures is beginning to concentrate everybody's attention in the States on this problem of measuring the quality of life. We are very much intellectually and policy wise in a similar debate in this country, of trying to generate outcome measures which look at duration and quality effects.

1567. Should more of that type of study be done here? Would it be acceptable?

(Professor Maynard) I regard it as absolutely essential. We are back to "marvellous" data systems. The Department of Health has spent a lot of money producing performance indicators which are measures of activity and not measures of outcome. The debate about health care in this country is obsessed about either spending money (with one side saying we are spending too much and the other saying too little) or it is obsessed about doing things to patients, but it is not really looking at the results of activities and the expenditure, and that is what we have got to be looking at: the cost and the outcomes.

1568. The effectiveness of what we are doing?

(Professor Maynard) Indeed.

Lord Kearton

1569. Arising out of that, there is a paper we have from Doctors Crombie and Fleming at Birmingham University concerned with routine provision of data about communicable diseases and so forth, and they go on to say "...these data give us a useful insight into the problems and implications of variability between doctors and in so doing have much to say about quality of care in general practice". Then they go on to expand and echo what you say, "Research directed towards eliminating waste requires the collection and analysis of routine statistical data, and because it is inevitably threatening to the status quo, will never have a substantial supporting lobby." and "The long term adverse effects of drugs are difficult and costly to research." And they say more in that area: "For example, there is now sufficient evidence to say that careful checking of the BP at regular intervals during middle life would lead to the identificaiton of hypertensives and appropriate treatment will enhance quality and quality of life, but the cost implications have not been addressed." This seems to be very much in the same area you are in.

(Professor Maynard) Yes, there is much greater awareness in some elements of the medical profession.

1570. These people are part of the DHSS?

(Professor Williams) They are not part of the Department. They are financed by it. They are independent of the Department.

Lord Rea

1571. This really goes back a little bit to the Health Research Council which may or may not have its £20 million. Do you regard this as a body which is going to fund other units largely, or is going to have its own institutions, or both? How do you see it growing? Should it be more closely linked to the DHSS than the Medical Research Council or about the equivalent distance from it?

(Professor Williams) Further distanced from it, if I may operate on a third possibility! As regards the first point you make, however, I think it should be a research funding body, because that way it is going to be much more detached in judging the quality of the work that is going on and able to be much more ruthless in cutting out outfits that are not really doing a very good job. Once you have got commitment to your own people doing work, then all sorts of conflicts of interest begin to arise within the system which I think would be best left out.

Lord Erroll of Hale

1572. As regards the membership of the council, have you any ideas on whether the members should be lay members or should they be medically qualified people? Should the Chairman be an eminent retired Judge, or a former Cabinet Minister?

(Professor Williams) I think it needs to be somebody who understands what issues are in fact researchable, and what are not, and should not

[Lord Erroll of Hale *Contd*]

have a particular policy stance on any issue. I do not think it matters very much about the person's background. I would be quite open-minded about the rest of it. I think it will need to be somebody younger than a retired judge, because it will take an awful lot of energy, this job, and I think they might not be up to it! I would think it is a job for a 45-50 year old, rather than anybody older than that.

Lord Flowers

1573. If it is spending public money, it has to be accountable to somebody, has it not?
(Professor Williams) Yes.

1574. For example, the Department of Education and Science, like the other research councils. You do not want it in the DHSS, I gather?
(Professor Williams) No. I think that the DES is slightly better than the DHSS, and it would be more comparable with other research councils. However, I would like to float off a wicked thought which may be hopeless and not at all practicable. That is, whether it should not be responsible to the Comptroller and Auditor General and report directly to Parliament.

1575. It would be nice, would it not? The things you are talking about are very important indeed, and yet there is difficulty in organising them through Government. One wonders why, with the enormous amounts of money available to medicine through the private charities, they have not swung into action to a much greater extent than they have on the problems which you mention?
(Professor Williams) Do you mean bodies like Cancer Research or bodies like the King's Fund?

1576. The King's Fund does a little, of course.
(Professor Williams) I think they have all developed their little bit of territory, have they not?

1577. Some of them are tied to specific purposes like cancer or heart disease or something, although there is a health research aspect to every disease, is there not?
(Professor Williams) Indeed.

1578. One wonders why, especially since they meet together these days to co-ordinate their policies a bit, they have not all said, "Let's put something together for this kind of research."
(Professor Williams) I do not know. I think that that is something you should ask them about. I am an outsider in this.

Lord Erroll of Hale

1579. Why not let industry and commerce take this over? Why not let the insurance companies set up the research centre and fund it, or the medical insurance groups like BUPA, WPA and PPP who would all have a real interest in seeing this sort of work being done?
(Professor Williams) As long as they do not have too narrow an interest. That is the problem. We want them to have an interest in one sense, but no interest at all in another sense. That is the trouble.

Lord Flowers

1580. It would be a bit like the tobacco companies backing research into smoking, would it not?
(Professor Williams) Yes.

Lord Sherfield

1581. I was interested in what you had to say in your paper about the fragmentation of medical research. The fragmentation of research is something we seem to get at almost every inquiry. Your solution is to define the activities of the MRC and of the ESRC more sharply. Do you think that that is sufficient? Is that the best way of approaching the assessment of priorities, which is one of the subjects which we are looking at?
(Professor Maynard) I think that a clearer definition of those institutions and monitoring of those roles would improve the situation compared with what we have got now. However (and I think that this answers a question of the Lord Chairman earlier on), I think that the better solution would be to move to a specific research council. So there are a range of options here.

1582. This health council would not cover the whole field, would it; it would be restricted and would only cover a part of the field, would it not?
(Professor Williams) There would still obviously be medical scientific research which would need to be dealt with separately. In my view, there is a lot of discipline-based work that would still go on outside this other research council. I believe the essential thing about this new, hypothetical body is that it would be much more problem-orientated than anything else. It starts from analysing problems, formulating them and thinking what sort of human intellectual resources we would need to bring to bear on those problems. My expectation is that it will usually be a mixed group of talents that will be needed, and that the existing research councils are not very good at doing that kind of thing. They are mostly in a responsive mode. They wait for scientists and researchers out in the field to come up with bright ideas and go along to them and say, "I've got this terrific idea, and it's going to be very useful in this way and that. Give me the money and I'll do it." We still need that, but that is a bit serendipitous. If that activity happens to latch onto the problems which for us as a society are important, well and good, but there is no reason why it should particularly. It latches onto things that excite researchers, and they may not be the things that are of most concern to us as a community. We need to lean the other way. That is the object of this other body, as I see it. It starts from this other standpoint.

Lord Kearton

1583. I would really like to take this up, if I may. In your report you say that "the strains within the

[Lord Kearton *Contd*]

present system are such that I doubt they are containable. Something drastic needs to be done." The "something drastic" is setting up better research councils. Then you say that it needs to be given 10 years to make its mark; if it does not make a difference by then, it probably will not. That seems to be a bit of a nonsequitur to me, if the strains are so drastic. You are setting up something experimental for nine or 10 years, and you do not know whether it is going to work.

(Professor Williams) When I say "the strains within the present system", the strains within the system are the attempts within these research councils like the ESRC and the MRC to contain two different lines of pressure, one coming from the research community for things that they regard as good science, and things coming from Government which are useful. That is the tension, and they are attempting to resolve it within each separate body. I do not think they are going to be able to resolve it within each body; it is not going to be feasible to do it. So maybe the thing to do, if you are trying to get research done with two entirely different motivating forces, is to separate the institutions so that each institution has a very clear set of targets, clear lines of communication, clear lines of accountability. That is what needs to be done. I do not think that the fact that the tensions are important and urgent necessarily means that you can wave a wand over it and solve it in two years. I do not believe that. That is why I think that even if you changed the institutions you have still got to create a culture, you have got to bring the human resources together, and it is unrealistic to expect significant result in less than 10 years. I therefore do not see these two statements as being in contradiction with each other.

Chairman

1584. I think that perhaps we ought to leave it here.

(Professor Williams) Thank you very much for the opportunity to talk to you.

1585. Thank you very much for coming and giving us your time, and thank you for the evidence you have put before us. We are extremely grateful to you.

(Professor Williams) I look forward to seeing what you make of it!

Chairman] Indeed. Thank you.

Examination of witness

Dr CLAUDE LENFANT, Director, National Heart, Lung and Blood Institute, National Institutes of Health, USA, called in and examined.

Chairman

1586. May I welcome you to this meeting of our Committee which is conducting this enquiry, Dr Lenfant. I know that you are familiar with our terms of reference. May I say that we regard ourselves as particularly fortunate to be able to have the opportunity of picking your brains (if I may put it that way) in connection with our enquiry, and particularly following the most interesting visit which a number of us made to your country, in which, may I put it on the record, we were extremely well received and were given a very open and constructive picture of the way you see the problems of priorities in health research in the United States and how you are dealing with them. During our visit we had the pleasure of visiting your institute and also the NIH of which you form a part. In order to inform those members of the Committee who are not so familiar with this as those of us who made the visit, perhaps you could briefly tell us about the role which the NIH and your institute play and its relationship with the Government and the necessary bodies in Washington?

(Dr Lenfant) Certainly. The National Institutes of Health are an agency of the Department of Health and Human Services in the US Government. The Department of Health and Human Services is composed of three or more agencies, and one of them is the Public Health Service. The Public Health Service is really the part of that department that deals with all the health issues which arise in the country. The National Institutes of Health are a subdivision of the Public Health Service, along with the Food and Drug Administration, the Centre for Disease Control and other agencies.

1587. And through these funding agencies to the NIH, and through the NIH to you as one of the institutes?

A. No. The funding of all the components of the Department of Health comes directly from Congress. Each of us, the directors of the institutes/divisions, go to Congress once a year to defend the budget of our organisation. Now the interesting thing is that the budget that we are defending and presenting to Congress is the budget which has been proposed by the President of the United States. Of course, we contribute to the formulation of that budget by submitting proposals up to the President or his representative which is the Office of Management and Budget but it is the budget that they (that is the Office of Management and Budget) think that we will need to do our work which is presented by me, say, to the Congress.

1588. So that as the director of the National Heart, Lung and Blood Institute you are getting your funds directly from Congress and the members of Congress who are involved take a direct interest in what you are doing and the detail of what you are doing, as I understand it?

[Chairman *Contd*]

A. Indeed. It is an interesting peculiarity of our system that within the National Institute of Health there are 14 institutes and five or six divisions. Each of us, the directors of all these organisations, goes to Congress to defend our own budget. It is not the director of the National Institutes of Health who does it. It is us who go and defend our own budget, and the process goes as follows: it starts approximately at the end of January, and we go on for a couple of months depending on the schedules and other things which are of concern to the Congress at that time, but anyway at one time I am called to the House and I meet with a committee like this one, and the chairman will say "Now, we are going to hear the budget proposal from the National Heart, Lung and Blood Institute" and he will say "Doctor, do you have any statement?" and I make a very brief statement and my statement is to describe briefly some of the things that we might do in the next year and progress that we have accomplished during the previous year, and at the end of my statement I will say "And for these activities, Mr Chairman, I am requesting ..." whatever the President told me to request, and from then on we have a couple of hours of give and take, where the chairman and other members of the committee will ask me if I have enough for this thing, or enough for that thing, and what is new, and whether we did those things that they suggested we pay attention to last year. This hearing goes on in the House for approximately a couple of hours. In the Senate it is the same process except that it is much shorter for we have only 100 senators and of course they have to attend many committees and so the time that we spend with them is much less. Approximately, for my institute last year, I spent about 20/25 minutes with them in contrast to two hours in the House.

1589. I get the impression that Congress is very supportive of expenditure on research in the medical field?

A. Indeed. The Congress is extremely supportive of what we are doing, and extremely supportive of the National Institutes of Health, I believe that during the last 20 years, except for one year, the Congress has always appropriated more than what was requested by the President; has it varied from 10% to 20% more per year.

1590. I am very glad you were able to sit in on the questioning of the previous witnesses from the Centre for Health Economics from the University of York. Would you have any comments to make on the assessment of medical effectiveness which is now being done in the United States? Cardiac surgery was in fact mentioned, and this is very much your field, of course.

A. Yes. There is an assessment being done in the United States. I am not sure that it is done for the same purpose that was discussed here—namely, to establish if it is cost-effective. I think this was the thrust of the questioning and the explanations here. In the United States we would do it more for the purpose of establishing whether a technology, say a surgical procedure, does provide better care or not. I would say that the cost issue is perhaps secondary to dealing with the quality of the care which results from that procedure.

1591. Would you feel that with the focus which is now being put on balancing the budget in the United States there may be a change in that approach?

A. There is no question that the current budget difficulties in the United States are going to affect the budget of the National Institutes of Health. I think it would be very naive to believe that we are going to go through that without being affected. I do not believe, however, that it is going to affect us to a point that it will be detrimental to the continuation of our programmes. It will be a restriction more than anything else.

1592. Because there is a greater realisation of the importance which research has to play in providing adequate medical treatment.

A. I think that in the United States, there is that very strong belief that basic research must be supported by the Government and for that reason I do believe that there will be continued support at a very significant level in spite of the current difficulties.

Lord Erroll of Hale

1593. I would like to come back to the question of meetings with Congress and the Senate. You say that the meeting lasts, say, two hours. Do you find it is more than a formality? Is it more than just informing interested Congressmen? Is there input of value to you? Do they make severe alterations to your budget or switch from one item to another? I do not mean necessarily reduce the budget, but change it?

A. Yes, as a matter of fact, they do. Let me take an example: in the early '80s, there was a trend to support lots of basic research and it became very clear that this support was flourishing at the expense of more applied clinical research; so during the last two or three years the Congress in effect made a decision to provide us with additional funds to restore clinical research at an appropriate level.

1594. As regards the Senate, which is briefer, is that more of a formality, and does it ever arise that the views of the Congress committee are in conflict with the views of the Senate committee?

A. Yes.

1595. Who wins?

A. The way they work it out is that they have a conference between the two bodies. We do not get two appropriation bills; we get one appropriation bill which is the result of the conference between the two bodies. For this year the conference is taking place just now.

Lord Sherfield

1596. Could I ask one more question about the budget? Do I understand that the budget is really

[Lord Sherfield *Contd*]

first of all drawn up in consultation with the Office of Management and Budget and then submitted to the President who then presents it to Congress? Is that how it goes?

A. It is not decided in consultation with the Office of Management and Budget. We submit a proposal that makes its way up to the Office of Management and Budget, and the Office of Management and Budget says, "That's too much. You will get only this much." So I do not call this a consultation; it is a kind of unilateral decision.

1597. It is that figure which then goes to the Congress, is it?

A. That figure is introduced in the President's budget which he submits to Congress on 21 January each year.

1598. Then *you* can go along to the Congress?

A. Then I go and defend that budget.

1599. You go along to the Congress and say, "That isn't enough"?

A. No, just the contrary. I go there and I say, "That is my budget and that is what I need." You see, I am a civil servant. I work for the President and I defend the budget of the President.

Lord Kearton

1600. It is fair to say, though, that it is defended in such a way as to invite an increase?

A. Maybe it is correct to say that. In addition, the Congress seeks out input from all kinds of citizen witnesses who are not there to defend the President's budget, they are there to say what *they* think I should get.

Lord Flowers

1601. To what extent do you try to determine priorities in research in the United States as a result of systematic estimates of likely disease patterns or of the saving of working hours or something of that kind, as a result of ameliorating disease? The stress is on the word "systematic".

A. I think it is not systematic. However, if there is a national health crisis such as AIDS, for instance, there is no question that the whole system responds in the way that you describe, by allocating more and more substantial amounts of money for research on this disease.

1602. But that is not systematic, that is panic, is it not?

A. That is right. In a systematic way we do not do it, because basically there is no reason to do it, as the Institutes of Health are divided among a number of units which are concerned with the most important pathology, and therefore all diseases are taken care of. In addition, there is a legislation which gives a special break to what we call "orphan diseases" which are diseases that would affect very few people in the country. Even these diseases are receiving some attention.

Chairman

1603. There are two ways of doing research, are there not? One is to have proposals coming up from centres of excellence and well qualified researchers, which you would assess and judge to be worth supporting or not, according to their merit. The other is to look at the needs of the health of the nation and say, "This area, that area and the other area are not being properly covered, and therefore research in these areas should be stimulated in some form or the other." Therefore, to that extent one determines whether one justifies having priority over the other. How do you do that?

A. Through an advisory process which is very substantial. For instance, in our Institute, which is concerned with diseases of the heart, of the lung and some blood diseases, I have six advisory committees which are looking at all the programmes of the Institute and making each year a series of recommendations for programmes which should be stimulated, initiated, further developed, continued, whatever. Once I have received these recommendations and have decided what it is that we think we could do within the budget that we have in hand, I take these recommendations to another group of advisers which is called the National Heart, Lung and Blood Advisory Council. This is a body made up of 18 people, 12 being scientific professionals and six being from other disciplines such as sociology, economics, law, university administration. I discuss with them, what are the things which we would like to do on the basis of the recommendations that we have received from the advisory committees. If they agree, we go ahead and implement these things. So there is indeed an element of directed research, but it is not directed by the administration or by the bureaucracy, it is directed by the scientific community itself.

1604. To take that a stage further, what is the budget of the National Institute of Mental Health compared with yours, and is the priority between the two right, for instance?

A. This sounds like a loaded question, but to tell you the truth, I do not know what the budget of the Mental Health Institute is! I just cannot answer the question, because I do not know how much money is appropriated to them. I am sure it is less than what I am getting.

Chairman] But there would be a question there for priorities, would there not, whether one area should be receiving more or less?

Lord Flowers

1605. Could I try to put the question a different way? There are fashions in what is a good disease to try to cure. Everybody is excited about cancer, or at the moment AIDS, as you mentioned yourself, but there are also scientific fashions for further studies of protein synthesis or whatever.

A. There is no question about the Congress response to that: no question about it.

[Lord Flowers *Contd*]

1606. To the scientific fashions, or to the disease fashions?

A. To both. First of all, the committee of the congress that we deal with is very well-informed, and well-educated.

Chairman

1607. Through various pressure groups?

A. Yes, and through staff. There is no question the pressure groups play a very important role, and therefore the Congress responds to that. But you know I do not think that it has a very, very significant influence. One year my budget will be the second largest of all the institute's budgets, or I will receive the second largest increase, but the next year it may be only the fifth largest increase; the year after it may be the eleventh and then after that I will go back to being the first. So you see there are some variations from year to year, but they are not so great that when I do not receive the largest increase of all the institutes I am going to say "Gentlemen, I can do nothing—it is a disaster".

Lord Kearton

1608. What is your budget at the moment?

A. This year it is going to be $1 billion.

Lord Flowers] Our problems are somewhat different!

Lord Rea

1609. I wonder if I could ask you this: in the process of working out what kind of research is going to get funded within your institute—and the institute works vertically right from looking at basic biomedical research at molecular level, to clinical research, through to perhaps more preventative and promotional aspects—what are the factors which are operating in the decision to move from one end of the spectrum to the other?

A. First of all I think there are needs that are perceived by the scientific community. There is a time in science when we are ready to do microbiology and there are times when we are not but are ready to do something else. In our institute, like in most of the institutes, we cover the whole spectrum, as we like to put it, "from the gene to the bedside and everything in between". Some years we are closer to the bedside, and some other years we are closer to the gene. It is really determined by the state of science—what is feasible at any point in time—and this really contributes a great deal on how we distribute these resources, looking at the big picture. Now, three times a year we receive grant applications, and we have to make a decision as to who is going to be funded and who is not. We use three criteria to make these decisions. The first one and most important is the scientific assessment—whether what the scientist proposes is judged by his peers as feasible, important, timely, appropriate, and is going to work or however you want to put it. The peers, the other scientists, make a judgment and provide a scientific assessment which is the most important criterion to reach a funding decision. The two other criteria are not scientific in nature, but they are as follows: the second one is "Okay, we have this proposal which wants to"—let me take an example—"look at psycho-behaviour response to cardiovascular disease", something like that. We look at the whole spectrum of things that we are supporting, and see that we already have a very heavy commitment in this particular area of research. Then we ask whether we really need to support one more project on this topic, or we say "It may be highly meritorious, but if we fund it, are we not going to take money away from another area which is just as important? But we will not have the possibility to support this other area if we were to fund the first one." Finally the third question is "What is the relative cost of a project within the framework of a fiscal situation?": for example, assume that this year, once the compromise between the President and the Congress is finally established we get less money than expected, then our approach to funding very expensive projects would be different than if we had received as much as we expected. So basically it is a mix of these three things: the scientific assessment, the programme priority or the programme importance, and thirdly the relative cost considering all the things that we have to support.

1610. Could I ask one supplementary on that: you say that finally you have an assessment committee which you take your proposals to which has, I think you said, one third of its membership from other disciplines than medical science. Does that one third ever ask you to change the priorities within your setting of the different types of research?

A. The non-scientific people never do it, but they participate in a discussion. If one member of this national advisory council questioned the priority and said "Well, I do not think you should do this but do something else", we would need to have a vote of the whole group to make a decision and the non-scientific people participate in the discussion in a very active and intelligent way.

1611. But do you sometimes find that there are changes as a result of that discussion, or do they usually accept the changes? They do not just "tick the box", do they?

A. Yes. Let me tell you one more thing that you may find interesting. Those of you who were in the States heard about it, in our system the funding responsibility is vested in the director of the Institute. My advisory council has basically only a veto power. If they say "You will not fund that" I cannot fund that application. It is an absolute veto power, but short of doing that, the final decision is with the director of the Institute, and during the last five years I know of only one case where the director, namely me, did not agree with our council, and we went another way.

Chairman

1612. Could I ask to what extent does the Institute take a follow-up interest in the work which

[Chairman *Contd*]

they have sponsored either in-house or out-of-house, but particularly out-of-house, in the effectiveness with which the work itself is prosecuted, and the effectiveness with which the results are disseminated through the profession and applied for the benefit of the health of the people?

A. Our interest is absolute. That is a simple fact.

1613. All the way through?

A. All the way through.

1614. How do you do these three distinct functions: assessing the effectiveness of the work; secondly, its dissemination to the profession; and finally its application by the profession?

A. If somebody is to be funded, that person, will receive a commitment for support for say five years. Every year he or she should submit to us a progress report which tells us what has happened during that year. If there is a real problem we go back to the investigator and say "We have a problem." The problem may come from the university in the sense that the university has not provided a facility that they said they would provide, or something like that, and we try to work it out, or it may come from somewhere else. At the end of 5 years, if the investigator wants to renew the project to continue it, he or she has got to send what we call a competitive renewal. This competitive renewal is going to go back to his peers and they are going to evaluate what has really happened in scientific terms during these 5 years. If not enough has happened, the chances are pretty good that the renewal will not be supported.

1615. And that does happen?

A. Oh, absolutely. It happens in approximately, I would say, one third of the cases.

1616. We all appreciate it is much easier to stop research projects than start them, but you do stop them from time to time, do you not?

A. Absolutely.

Lord Kearton

1617. What is the degree of international collaboration in your field?

A. The degree of international collaboration is fairly significant. It is expressed in two ways. Some is very formal. There are a number of countries with which there is a government-to-government co-operation agreement in which we participate. By and large, the best and most effective co-operation is the informal one of scientist to scientist. The scientific world is one which communicates very fully; there is no frontier to speak of, therefore there is a very extensive scientific co-operation across the borders.

1618. Is there a great deal of overlapping? Is similar research going on in the United States, in France, in Germany, in the United Kingdom, in Japan, for instance?

A. We are concerned by that. I can illustrate this with a very specific example. I have been here for 10 days or so now and I have found that there is a very important study which is going to get started here which we are also initiating in the United States. When I go back I am going to ask my people to get in touch with those who are doing the study here, to see if we can co-ordinate it and give it more power.

1619. In making these annual and five-year assessments, do you form any picture as to the difference between the intra-mural funded programmes and those which are funded in the universities?

A. Those who have to submit renewal applications are only the outside investigators. With the intra-mural ones, the in-house investigators are reviewed every two years. If it is found that the science is not up to par, we have a real problem, because our scientists who work in-house are civil servants and therefore they cannot be dismissed very easily. It takes quite a bit of doing to achieve that. Fortunately it does not happen very often, because for these people to get tenure within our system they have to wait 10 or 12 years and to have demonstrated that they are going to be productive scientists.

Chairman

1620. What is the proportion of extra-mural and intra-mural within the institutes?

A. In our institute the intra-mural proportion is eight percent.

1621. That is all?

A. Yes, that is all.

1622. All the rest is outside?

A. There is another component that does not go outside, which is the management cost of the institute, and that is about five to six percent.

1623. Taking it on to the next phase (that is, assessing the work in hand), what about the dissemination of the results to the profession, and its effective application for the needs of the people?

A. Of course, these are two different issues. As to the dissemination to the peers, nobody has to worry about that, because we have scientific meetings all the time. Scientists go there to tell their story and are criticised when necessary.

1624. That is not a problem?

A. No.

1625. Even in a country the size of the United States?

A. It is no problem at all. In fact, sometimes we wish there would be fewer meetings, because they would stay at home more often.

1626. As a matter of interest, do you pay for them travelling around for these meetings?

A. Of course, yes. Do you know how much my institute spends in travel a year?

[Chairman *Contd*]

1627. No, what is it?
A. It is approximately in the order of, I would say, $500,000, and $65,000 is for foreign travel.

1628. Foreign travel is included in the support?
A. Yes.

Lord Rea] As a proportion of $1 billion that is perhaps not quite so much.

Lord Kearton

1629. I noticed that you mentioned Nobel Laureates, Dr Lenfant. We met one Nobel Laureate when we were in Boston, who was talking about medical biology and said that Britain had a very dominant position in this field 10 years ago but now its position had deteriorated so much that Britain was hardly worth a visit.
A. Do you ask if I agree with that?

1630. Yes.
A. No, I do not agree with that. I think I know who said that. I can imagine in Boston who would say that. There is no question that there is a great sentiment that Britain is losing speed a bit. It is very clear from my conversations here during the last 10 days that the scientific community is very depressed.

1631. Losing speed a little bit or a lot?
A. Enough to be noted outside Britain.

Chairman

1632. Going back to that question of travel, that is rather interesting, because that is one of the constraints about which some of our people complain. As to the $500,000 which you pay out in travel expenses, that is to the institute staff, is it?
A. Yes.

1633. It represents about 8 per cent of your internal budget, does it?
A. Yes.

1634. With regard to the external scientists who are engaged in the extra-mural activity, would they be able to charge *their* travel against the budget?
A. Absolutely.

1635. So there is all that on top of it?
A. Yes.

1636. This is just for the institute?
A. That would be for the external community, the scientists in the universities. I send them $850 million a year. I would say that there must be at least $3 million or $4 million of that for travel.

1637. Going to the third phase, which is the question of the application of the findings of your research, what would you say about that?
A. We do it in two ways: through publication and through educational programmes. The educational programmes are effected in two ways. Each time there is a research outcome which is of enough significance, we hold what we call a consensus development conference. Let me give you an example. For instance, the treatment of elevated levels of cholesterol in the blood. This is a subject which is discussed a great deal and is sometimes controversial. We are going to bring together in Bethesda 10 or 15 of the best scientists, people who know the most about it, who are for or who are against it. We put them in a room with an audience for about three days.

1638. Professional?
A. Yes. At the end they have to come up with a consensus statement which is published in the journals with the widest distribution in the United States, in the New England Journal of Medicine, or the Journal of the American Medical Association, or the Archives of Internal Medicine. One thing I cannot tell you is whether all the physicians who read the statement are going to say, "That's the way we should do it now." I have no way of being able to say that. However, at least what I can say is that the scientific information is sent out there as quickly as possible. In addition to this, in our institute we have five, as we call them, national education programmes. We have one on high blood pressure, we have one on cholesterol, we have one on smoking, we have one on blood transfusion, we have one on asthma.

1639. They are run by whom?
A. By us.

1640. By the NIH?
A. Yes. The ones that I mentioned are run by the National Heart, Lung and Blood Institute.

1641. By your institute?
A. Yes. These programmes consist of two things. One is to inform the public and also to provide the practising community with the most up-to-date information. For instance, if we look at the high blood presure eduation programmes which is the oldest we have. It is 15 years old now. We think that this programme is really responsible for the increase in awareness about blood pressure for the fact that people with high blood pressure are more controlled; and for a decrease in the death rate from strokes and cerebral vascular accidents during period of time. So I think that these programmes have been demonstrated to be fairly effective.

1642. The reports of these discussions and these surveys go out to the whole profession, do they?
A. Yes. We address the public as well, through the media, TV, radio, as well as in the weekly journals and magazines.

Lord Kearton

1643. Equally, they go out to the world, not just to the United States public, do they not?
A. Yes, whoever wants them can have them.

Lord Rea

1644. This is a very interesting difference between the NIH and the Medical Research Council, and derives from the difference in origin. You came from a public health function into a research function, but you still have some public health duties, do you not?

A. Our institute has been created by law. It is not somebody who decided, "We are going to have a heart, lung and blood institute." It is the Congress that decided that, and there is a piece of legislation which says that "This country shall have a heart, lung and blood institute, and the mandate of that institute will be to do research to improve the health of the American people." It also says that it will do it by doing basic and clinical research on the treatment, prevention and diagnosis of these diseases, and it will disseminate the information that obtains through such research. I have a mandate. The law that regulates my activities, says, "You shall do public and professional education."

Chairman

1645. That is very interesting. What is the role of the National Institute of Medicine, then?

A. First of all, the Institute of Medicine is equivalent to what exists in Europe under the names of Academies of Medicine. About 12-15 years ago, when the medical community decided that they should have a body that would be a prestigious organisation, they spoke about creating a national academy of medicine. Because the National Academy of Sciences was already so much involved with biomedical sciences, it was decided to create the National Institute of Medicine within the National Academy of Sciences. Its role is really to look at the health establishment in the United States. By "health establishment" I mean from basic research to care delivery, to running the hospitals, to public health issues, to cost containment, to whatever has anything to do with health. The Institute is broken down in a number of committees and boards, and they meet and discuss these issues. For instance, I serve on the Health Policy Board, is responsible for charting the course of research in the United States, but in a broad sense, not in a specific terms.

1646. Is it doing it for the profession, or is it doing it for the Government?

A. It is doing it for the Government. It is really an advisory body to the Government

1647. And paid for by the Government?

A. Yes. They get a contract from the Government in two ways. Sometimes the Government want a study, and the Government therefore give them the money. Or they have an idea, and they come to the Government and say, "We think that we should this study for you, but you have to pay for it."

1648. It is a two-way stream?

A. Yes.

Lord Kearton

1649. We saw some of their reports, and they struck us as being of a very high standard indeed.

A. You probably saw the one on AIDS, I assume. A few years ago they did one on the teaching of nutrition in medical schools. They came up with the statement that it was a disgrace to the United States that there was no formal teaching of nutrition in the medical schools. Now all the medical schools have a formal teaching in nutrition.

Chairman

1650. It all sprang from that study?

A. Yes, there is no question about it.

Lord Kearton

1651. Again moving, as it were, into the field of health economics, I would have thought?

A. Yes, more and more, because, as you know, the cost of medical care in the United States is a very serious issue. In this Administration our current Secretary of Health has been very concerned with it and has made it his first priority.

1652. For something that is so prestigious as the Institute of Medicine, moving into health economics is likely to have quite a considerable effect, is it not?

A. I would have said so.

1653. People will take their reports as representing a whole professional view and spectrum of opinion, will they not?

A. Yes.

1654. In other words, they do distil received wisdom at any given moment?

A. Yes, it is a very influential body. In fact, I can tell you that sometimes it is a bit too influential, in the sense that it comes up with these new ideas to change a system that works and you hesitate to change the system.

Chairman

1655. Would you have any views to express on the role of health services research in the modern health environment, when its' cost is becoming such a large element in public health expenditure?

A. First of all, I think that it is very important to do health services reserch, there is no question about it. It is very important, because it is really one of the best ways that we have to come up with the best possible care, when we do have finite resources. If you had infinite resources, who would care about case cost? But within a system where you have finite resources, you need to do health services research. In Great Britain you certainly have the capability to do it much better than we probably do it in the United States, because of the whole structure of your health care system. In the United States you have a pay-as-you-go system and people pay, so the pressure to support health services research is not as great as here where the government underwrites all health costs. My personal position—and in no way does it represent that of

[Chairman *Contd*]

the organisation where I work—is that health services research is very important. In our institute we do some, in the sense that if there is a new technology that emerges we are going to assess it. I am sure you have all heard of these new drugs to dissolve bloodclots in the coronary arteries, for instance. This new technology has raised a number of public health issues which are extraordinarily important, and our institute is spending lots of money to try to resolve these questions. So I am personally a very strong supporter of health services research.

1656. That is very interesting. We have been very privileged, if I may say so, to have the opportunity of questioning you during the course of our Inquiry. We are very grateful to you for giving the time to come and visit us during your short visit to this country. You are, of course, a frequent visitor to this country. Before we close the session, are there any points you would like to make to us on the enquiry which we have in hand, which would be of interest?

A. One thing that I might say, is that I am personally a firm believer that scientific enquiry is very important. It is in essential to progress. We must always seek to ask questions and seek an answer. Therefore, research is a very important activity. A few days ago I was visiting the Royal Society of Medicine which is my host here. In some of my remarks to the members who were present I said that many of the things that we benefit from in the United States are contributions which have been made here in this country by British scientists. I would hope that in the future the rest of the world can keep on benefitting from the research outcome that came from this country and will continue to come from this country.

Chairman] Thank you very much. We hope so too. Thank you very much, Dr Lenfant. We are very grateful to you.

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HOUSE OF LORDS SESSION 1987–88

MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

at

IMPERIAL CANCER RESEARCH FUND,
LINCOLN'S INN FIELDS

Tuesday 1 December 1987

IMPERIAL CANCER RESEARCH FUND
Sir Walter Bodmer, Professor J S Malpas, Major-General A W Dennis,
Dr M Crumpton, Dr G Stark, Dr T Lindahl, Mr W House

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TUESDAY 1 DECEMBER 1987

Present:

Adrian, L.	Nelson of Stafford, L. (Chairman)
Hunter of Newington, L.	Rea, L.
Kearton, L.	Sherfield, L.
Lockwood, B.	Smith, L.

Memorandum by the Imperial Cancer Research Fund

Summary

1. The Imperial Cancer Research Fund (ICRF), as one of the country's major medical research charities, is responsible for approximately one-third of all cancer research in the United Kingdom. It supports its own work in central laboratories and in extra-mural laboratories and units placed in universities and hospitals. (1.2, 1.3)

2. Revolutionary new opportunities in medical and cancer research have become possible due to recent major advances in fundamental understanding and accompanying technical developments. As a result, with increased resources, it is now easier to do valuable strategic work and design effective strategic research programmes. (2)

3. The charitable sector provides a major source of independent alternative and flexible funding complementary to that provided by the Government. The scale of this contribution emphasises the need for mechanisms for consultation between charities and the Government, such as the United Kingdom Co-ordinating Committee on Cancer Research (UKCCCR), which serves the cancer field. (3.1)

4. As public funds have decreased in real value, more money is needed from the charitable sources to make up for lack of support in the universities and the National Health Service. (3.3)

5. Medical oncology as a speciality has developed almost entirely through the support of the cancer charities. Support for clinical research must be sustained without syphoning off charitable research money into support for clinical services. (4.1, 4.2)

6. National Health Service planning should take into account clinical research needs and the contribution of the Charities to the service, specifically by recognising the need for specialised clinical units at a Regional level. (4.3)

7. The gradual transition from research to service leads to a tendency for research funds to support services that should be provided by the National Health Service. There is a need for a high level forward planning group within the Departments of Health that considers prospective advances in diagnosis and treatment and undertakes research into the costs and changes in the pattern of care which they imply. (4.4)

8. Universities and medical schools are major centres for basic and clinical research whose overall level of activity must be sustained. They are the major source of appropriately trained people. (5.1)

9. We support the idea of inter-disciplinary centres of excellence for major areas of research, and believe that it is through this approach that the ICRF is able to sustain its high level of activity. (5.2)

10. In judging the quality of the universities' research environment, it is essential that the considerable contribution made by extra-mural research units, whose funds are not channelled through the university, is fully taken into account. (5.3)

11. Recent proposals from the universities for costing the overheads on research projects could create a considerable additional burden on the medical research charities. The ICRF, to a very considerable extent, provides for the overheads of its own activities and is not prepared to change its pattern of support. (5.4)

12. Basic research is as important for a cancer research organisation as it is for the more broadly based Medical Research Council and must continue to be strongly supported. (6.2)

13. Prevention must be the first priority for the applications of medical research, and cancer research in particular, but research on prevention must not be narrowly interpreted. Rigorous research needs to be carried out on how best to implement the application of existing knowledge in the prevention area. (6.3)

14. Research charities make a major contribution to training at both the pre-doctoral and post-doctoral levels. An investigation is needed into the sources of post-doctoral fellows, their training and their future prospects. (7.1, 7.2)

15. The interaction between laboratory and clinical research depends on clinicians who have undergone a rigorous laboratory-based research training. This can be achieved through clinical research fellowships for medically qualified people to spend three or four years full-time in the laboratory doing a PhD after they have completed their major initial clinical specialist training. Such programmes, which should provide complete support for the costs of doing a PhD and for returning to a clinical setting after the PhD has been completed, should be extended. (7.3)

1. INTRODUCTION

1.1 This submission from the Imperial Cancer Research Fund (ICRF) is complementary to that from the Association of Medical Research Charities and emphasises aspects of priorities in medical research that are particularly related to the ICRF research interests and modes of operation.

1.2 The Imperial Cancer Research Fund is one of the country's major medical research charities. It now has a budget of more than £35m. a year, and excluding the pharmaceutical companies, is responsible for approximately one-third of all cancer research in the United Kingdom. Since its inception it has adhered to the principal of supporting its own work in its central laboratories and in extra-mural laboratories and units placed in universities, medical schools and hospitals. In contrast to the other medical research charities, the ICRF does not have a grant-giving programme. It has, as a result, been able to make a long-term commitment to a wide range of areas from the most fundamental to the most applied clinical and epidemiological cancer research, and to establish its own career structure for all categories of staff including those with advanced scientific and medical qualifications.

1.3 The different components of the ICRF function as an organic whole, contributing to an overall inter-related research programme. This distinguishes it from other organisations which mostly either give grants for independent studies or support a variety of activities which are only loosely linked to an administrative headquarters. The inter-relationship between all our different activities gives us advantages of scale, providing a wide range of inter-disciplinary activities within one organisation and enabling the efficient provision of central research support resources for both clinical and laboratory work.

2. NEW RESEARCH OPPORTUNITIES

Revolutionary new opportunities in medical research in general, and cancer research in particular, have become possible through recent advances in fundamental understanding of cellular functions and the technical developments that accompany them, particularly the development of recombinant DNA techniques and gene cloning, cell biology and the manipulation of cells in culture, the production of monoclonal antibodies and developments in chemistry and instrumentation. These possibilities underline the tremendous importance of maintaining an adequate level of basic research which has been the source of all the fundamental advances. The gap between new fundamental discoveries and their potential application in the clinic is much narrower than it was in the past. Fundamental mechanisms of cell division studied in yeast can quickly reveal mechanisms that may be critical for the control of mammalian cell division, pointing to important steps in the development of a cancer. Mechanisms which control the early development of lower organisms reveal critical new steps in the control of human cell differentiation. Mechanisms which control the early development of lower organisms reveal critical new steps in the control of human cell differentiation. Mechanisms by which bacteria repair their genetic material lead directly to the discovery of similar mechanisms in mammalian cells, which underlie susceptibility to carcinogens and response to drugs used in chemotherapy. *All these advances mean that, with increased resources, it is now easier to do valuable and useful work, especially with a strategic aim, and that it is now possible to design a strategic research programme which could not even have been imagined ten years ago.*

3. IMPACT OF CHARITY SUPPORT FOR RESEARCH

3.1 *The charitable sector provides a major source of independent funding which is an alternative and flexible source complementary to that provided by Government to the Medical Research Council and other research councils and Government supported bodies, the UGC and government departments.* Plurality of sources with different approaches is a major strength of the system. It is therefore important to maintain the independence and diversity of the charitable sources. Their overall contribution to medical research, as emphasised by the Association of Medical Research Charities' submission, is now comparable to that of the Medical Research Council. This emphasises the need for appropriate fora for consultation. In the cancer field, the United Kingdom Co-ordinating Committee on Cancer Research, which represents all the major cancer research charities together with the Medical Research Council and the Departments of Health, satisfies this need for an exchange of information and for stimulating, where appropriate, collaborative ventures. It is important that such a forum maintains the independence of the contributing organisations and is not directive, but supportive and so helps avoid unnecessary duplication of effort.

3.2 *The pattern of public giving to the medical research charities, with its inevitable emphasis on cancer, must be accepted.* It has tacitly been taken into account for nearly 50 years in planning government expenditure on cancer research, which acknowledges that approaching 80 per cent of expenditure in this field comes from the private charitable sector. This is not a distortion in support, so long as it is taken into account in the planning of the Medical Research Council's activities, as now happens. Moreover, since the major cancer research charities support a wide range of fundamental work which is relevant to many other areas of medical research, they make a contribution which goes substantially beyond their immediate remit in the cancer field.

3.3 *As the pressure on public funds has increased and their real value decreased, there is a corresponding pressure on charitable sources* as more money is needed to make up for the lack of support in Universities and also, and more especially, in the National Health Service. It is fortunate that the increase in funds to the medical research charities over recent years has compensated, at least to some extent, for the deficiency of those available from the public sector.

4. Clinical research and medical oncology

4.1 *It is especially important that the support for clinical research is sustained and that the charities are not sucked unwillingly into increasing support for care and clinical services.* Our policy of supporting our own research activities led to the establishment of extra-mural clinical research units, which are tripartite partnerships between the ICRF, medical schools and the Health Service. These Units are based mostly on academic departments of oncology established through ICRF-endowed Chairs. This has enabled us to develop a close interaction between laboratory and clinical work. Our policy in the clinical area is to assume that we should support those costs for clinical research that are over and above the costs of standard care that would normally be provided by the Health Service. The dividing line is, however, indefinite and so when, as has happened with the Children's Ward at St Bartholomew's Hospital, withdrawal of Health Service support from a clinical area essential to research was threatened, we were obliged to respond by putting more support into St. Bartholomew's in order to sustain the clinical research activities. Similarly, when recently we endowed a new chair in clinical oncology at the University of Oxford we had to guarantee support for the majority of the medical oncology costs in order to establish an academic department and research unit.

4.2 It is important to emphasise that *medical oncology as a speciality has developed almost entirely through the support of the cancer charities*, particularly the ICRF and the Cancer Research Campaign. Most appointments in this field, especially at a senior level, are supported by the cancer charities. Without their contribution a large part of the medical oncology services in Great Britain would disappear, let alone the clinical research which depends on these services.

4.3 National Health Service planning often ignores these research needs and their contribution to the Service. Clinical research in cancer and in other fields depends on the support of specialised clinical units, whose existence may be jeopardised by resource reallocation that does not take into account adequately their specialised nature and the extent to which they draw on patients from a wide area outside their District and even their Region.

4.4 There is a related problem that arises from the fact that, as the products of research are applied to clinical services or diagnosis and treatment, there is a gradual transition from research to service. Inevitably, this is accompanied by a lag in the provision of adequate support for the service and so a tendency for funds intended for research to be supporting a service that should be provided by the National Health Service. This conflict has naturally been aggravated by the pressures on National Health Service funds. Potential new developments in treatment, for example in the cancer field in autologous bone marrow transplanatation, proton therapy for melanomas of the eye, or *in vivo* diagnosis and treatment of cancer using radioactively labelled monoclonal antibodies, have major implications for the provision of resources for treatment in the future. Once such a treatment is established, the Health Service needs to provide for its implementation. There is therefore a need for a high level forward planning group within the Departments of Health and in the Regions that considers such prospective advances and undertakes research into the costs and changes in the pattern of care which they imply. It is little less than appalling that expenditure on the Health Service funds a research programme of its own at a level hardly more than £20m. Indeed, the overall expenditure on medical research (outside the pharmaceutical industry), is of the order of £300m, namely only about 1.5 per cent of the Health Service Budget, a level which would be considered totally inadequate in most major pharmaceutical companies to guarantee their medium to long term future. This emphasises the need not only to increase considerably the direct resources within the Department of Health for research relevant to the application of advances to new approaches to prevention, diagnosis and treatment, but also to increase the overall research expenditure base which, as already emphasised, provides so many new and exciting possibilities for significant practical advances.

5. University support

5.1 *Support for the universities is essential to maintain the overall activities in medical research,* and in particular of research charities such as our own. The universities and medical schools are major centres for basic and clinical research and even large independent research laboratories, such as our own, depend on interactions with the universities. Moreover, the universities are the only source of appropriately trained people, at least at the undergraduate and to a considerable extent also at the postgraduate level.

5.2 *The emphasis of the recent ABRC Report "A Strategy for the Science Base" on inter-disciplinary centres of excellence for major areas of research is supported by our own experience in the cancer field.* The ICRF is able to sustain a level of activity that is competitive with anywhere in the world, and to retain and attract scientists from all over the world. This, we believe, is primarily because we have created inter-disciplinary centres of excellence in cancer research which provide outstanding individuals with stable full-time research support, relieving them of the increasing burdens they would have in universities of undergraduate teaching and research grant administration. We believe that new initiatives in this direction, such as the recently formed Institute of Molecular Medicine in Oxford, supported by the Medical Research Council and medical research charities and in which we are placing one of our main extra-mural laboratories, point to the direction that universities must take in the future. Only in this way will they be able to maintain their competitive position in medical research. Such a centre may include an element of direction without imposing on academic traditions of independence and excellence, can cater for the needs of both full-time research workers and university researchers with mixed responsibilities, and can be subject to rigorous review to maintain standards in the future.

5.3 The UGC has, we believe rightly, recently become much more selective in its distribution of the research component of its funding to universities. However, *in assessing the scientific research strengths of universities, the UGC seems to take into account only funding which is channelled directly through the universities and not to acknowledge the considerable contribution made by extra-mural research units, such as our own and, of course, those of the Medical Research Council. It is essential that this contribution be openly recognised by the UGC, or its successor body.* Such extra-mural support is often a major component of the scientific strength of a university, on the basis of which we, like others, make our decisions on the placing of our own extra-mural support. The current, we believe misguided, UGC policy leads to inappropriate pressures on charities, such as our own, to channel funds through the universities, rather than establishing our own long-term activities based on our own commitment and resources. This is a damaging and unnecessary policy which we do not accept.

5.4 There is, understandably, increasing pressure on universities to charge appropriate overheads on research grants and contracts. *The formula proposed in a recent report from the Committee of Vice-Chancellors and Principals, on costing research and projects in universities, could create a considerable additional burden on the medical research charities* who mostly, in common with the research councils, still assume the continuing existence of the "dual support" system and so of "well found" university science departments who can provide their own overheads. This may no longer be realistic, but considerable care is needed in implementing changes in policy which may have different implications for different medical research charities and, for example, for industry. The nature of our own support for extra-mural research in universities, which entails endowment of chairs, provision of capital for new buildings or renovations, long-term support for research and also overheads for the costs of running a building, means that we, to a very considerable extent, provide for the overheads of our own activities. We are, therefore, not prepared to change our strategies of support in a direction that would increasingly prevent us from controlling our own activities. Such a change would, we believe, be to the detriment not only of our own research but also to its beneficial effect on the universities and medical schools within which it is embedded.

6. PRIORITIES

6.1 Priorities in medical research are clearly related to (a) the importance of a disease in terms of mortality and morbidity, (b) the accessibility of the disease to research to improve prevention, diagnosis and treatment, and (c) the need to balance the spectrum of basic to applied areas. Cancer ultimately affects nearly 30 per cent of the whole population and is the cause of about 25 per cent of all deaths and so justifiably has a high rank in research priorities. Moreover, as already emphasised, cancer research contributes to research on other diseases, as well as to developments in basic knowledge and techniques in, for example, cellular and molecular biology. Particular examples of applications to other diseases are i) early developments in AIDS research which came entirely from the cancer field and encompass many developments of knowledge in the immunological area, and ii) contributions to our understanding of the major chronic diseases, such as rheumatoid arthritis, which have an immune aetiological basis.

6.2 *The need to support basic research cannot be emphasised too strongly* and is as important for a mission orientated cancer research organisation such as ours, as it is for the more broadly based Medical Research Council. The balance is a delicate one. We must avoid supporting an equivalent to a major development of the iron lung for the treatment of poliomyelitis when vaccination is just around the corner. On the other hand, we cannot afford to miss a genuine opportunity for the clinical application of basic results from the laboratory, such as for example comes from the potential for the use of monoclonal antibodies for *in vivo* diagnosis and therapy of cancer.

6.3 *Prevention must be the first priority for the applications of medical research* in all areas, including in particular cancer research. But *research on prevention must not be narrowly interpreted* to mean classical epidemiological studies. We estimate that about half our laboratory work, from the most basic to the most applied areas, is as relevant to advances in prevention as it is for treatment. It provides for example, the basis for understanding the significance and mechanism of action of carcinogens, for interpreting and eventually implementing new approaches to the dietary control of cancer, and for the development of new ways of recognising individuals at high risk and implementing more sensitive and specific screening programmes. At the same time, we believe that *it is important to carry out rigorous research on how best to implement the application of existing knowledge in the prevention area.* The most obvious example of this is the elimination of cigarette smoking. The evidence that the general practitioner and primary care system may be the best vehicle for conveying the message against smoking as well as for many other messages in health education, including screening for cervical and breast cancer, must be rigorously evaluated using the approaches of epidemiology. This, we believe, is a valid and important area of research in which we have an active programme.

7. Training

7.1 Medical research requires a source of appropriately trained people. *The research charities necessarily, through their own activities, make a major contribution to this training.* Each year we take on to our staff about 20 new postgraduate students working towards a PhD. Many of these work in areas of molecular and cellular biology in which there is an enormous shortage of suitably trained people in both the academic and industrial settings. We have PhD students because we believe that this is a more effective way to carry out a significant part of our research, but in the course of doing so we are also providing a very high level of research training for a significant number of the ablest young biomedical scientists in this country.

7.2 Much of the laboratory-based medical research is carried out by post-doctoral fellows on limited term appointments, and such fellowships have become an essential component of research training. A good supply of able and appropriately qualifed post-doctoral fellows, many of whom come from overseas, is generally considered essential to sustain a high quality medical research programme. It appears to be becoming increasingly difficult to find good post-doctoral fellows. *There is, therefore, a need for a careful investigation of the sources of post-doctoral fellows, their training and their future prospects.*

7.3 We believe that *it is important that the leading future clinicians in the cancer field have undergone a rigorous laboratory-based research training.* This is one of the major ways in which close interaction between laboratory and clinical research can be encouraged, again leading to rapid transfer from laboratory to ward. Changes in the nature and scope of laboratory work and the pressures, and rewards, of clinical activities mean that it is now very unusual for our senior scientific staff in the laboratories to be medically qualifed. It is, however, we believe very important to have some workers in the laboratory who are medically qualified, because they also help to bridge the gap between laboratory and clinic. For both these reasons, therefore, we have a programme of clinical research fellowships which allows medically-qualified people with a research interest to come and spend three or four years full time in the laboratory doing a PhD after they have already completed a substantial amount of their clinical specialist training and obtained their MRCP or equivalent higher qualification. This programme includes not only medical oncologists, but also pathologists, surgeons and other specialists. In order to ensure an appropriate transition back to clinical work we guarantee support for one or two years in a clinical setting after the PhD. These clinical research fellows bring to the laboratories a maturity of attitude, and a knowledge of clinical problems which could readily be extended to take advantage of the many excellent medically trained people who can contribute, in the long run, to progress in clinical research. Of course, unless salaries in a clinical academic setting are competitive with those elsewhere, it will become more and more difficult to fulfill the goal of obtaining a high quality cadre of clinicians with fundamental research experience in an academic setting.

8. Conclusions

In conclusion, we would emphasise once again

(a) the enormous research opportunity for improvements in prevention, diagnosis and treatment of cancer, and all diseases, that arises through modern understanding and technological developments, and the value that will come as a result of this, from increased overall resources for medical research;

(b) the major contribution that is made by the charitable sector to medical research and the distinctive way in which this can be done, as we do, through the support of our own staff in long-term research programmes;

(c) the need to preserve the resources of the charities for research, by relieving some of the pressures that arise from the limitations of government funding on National Health Service research and UGC;

(d) the need to plan within the Health Service for the provision of the resources in the future that will be needed to take account of new advances in prevention and treatment.

Sir Walter F. Bodmer PhD FRCPath HonFRCP FRS
Director of Research

Sir David Innes Williams MD MChir FRCS
Chairman of Council

Examination of witnesses

Sir Walter Bodmer, Director of Research, Professor J S Malpas, Deputy Director of Research (Clinical), Major-General A W Dennis, Secretary, Dr M Crumpton, Deputy Director of Research, Dr G Stark, Assistant Director of Research, Dr T Lindahl, Assistant Director of Research and Mr W House, Assistant Director of Research (Scientific Administration), Imperial Cancer Research Fund, called in and examined.

Chairman

1657. May I say it is a very great pleasure for us to have the opportunity of visiting you here. We are reaching the last stages of our enquiry and it was particularly fortunate we were able to fit this visit in. We are very grateful to you for giving us the time this morning to meet with you, see something of your work and put one or two questions to you before our enquiry is completed.

(Sir Walter Bodmer) Thank you very much. We would like to say how glad we are that you have come to see us and it gives us an opportunity to show you some of our work. I thought I would just outline what our programme is for you and then give a brief introduction about the ICRF and discuss some of the aspects of the science, what we do and how we do it. After that we can move out to where the boards are and I will continue explaining some of what we do using the display boards which we use to explain our work to the public and on various occasions such as this. Then, after that, we have two laboratories we are visiting which represent different aspects of our work in this building in cell biology and cell growth and monoclonal antibody work, which is an important technology for us. We will then come back for the evidence session, at which point I will ask Professor Malpas to say something in particular about our clinical approach and highlight some of the problems, and then I will say something, emphasising further points in our submission about some of our planning and priorities and views on those. We have also provided you with some papers—I hope we have not flooded you with too much paper—because we thought you might like some further background. One is an article based on a lecture I gave, which is a general survey of what we see is going on in cancer research at the present time. The other is an extract from something which I have written as part of a history of the Fund which was being done by someone else, which will give a little more detail on the way we work and our planning strategies which we thought you might like to have for the record.

1658. Thank you very much, that would be very useful. Perhaps I should have pointed out that some members of our Committee are highly professional and knowledgeable in the medical field, others (including myself) are not! You have a rather mixed audience for your presentation!

(Sir Walter Bodmer) I hope we will take that into account. I hope you will tell us if we use words or say things which are not followed, because we clearly must explain what we do in ways which everybody can understand. If I can start by emphasising some features of our activities which we have mentioned but which distinguish us from other organisations. We do support our own activities and we do not have a grant-giving programme. We support our own staff with a career structure, like any other major organisation would, together with endowed chairs. This is an important feature of the way we work, which I think we will emphasise as we go along. We have these central laboratories which are a major part of our activities, and we have units and groups based in universities and medical schools throughout the country, though particularly in London. We are a little like the in-house part of the Medical Research Council—I wanted to say the NIH since you have been there recently, but I hesitate to compare a midget like us with a giant on the other side of the Atlantic!

1659. We were quite impressed with the NIH.

(Sir Walter Bodmer) I can imagine. I think the difference I would emphasise is that we do believe that we are an organic whole and this means something to us in that when we have an activity it is with a balance of interests in relation to the other activities, so all the different activities work in relation to each other and have evolved over time, and it is important and gives us great strength in bringing together the different activities. We cover a very wide range of research interests, from clinical trials and straightforward clinical application work, through epidemiology, to fundamental work such as the way cells work and the control of their growth, when we also use lower organisms including bacteria. We have advantages of scale in the way we work, even though in a sense we are a distributed organisation with activities in many different places all served by our central resources contribution—

[Chairman *Contd*]

tissue culture, animal work, biochemical support services—and being multidisciplinary all the different laboratories have access to each other. We feel that is very important. We have specialist groups who meet and this brings together the activities of our scientists. I will say what monoclonal antibodies are, but I mention that again because it is an important part of our other work. We have groups which study cancer in families, biological response modifiers, the successors to Interferon, and we are developing a clinical trials group within our clinical work. I would emphasise, because it is so much discussed, we believe in good management, which is not direction but really to enable the best people we hope we pick to do the work without encumbrance, which fits into the scheme we feel we have put together. Our senior scientists have essentially complete freedom as units of activity to carry out their own programme subject to stringent periodic reviews which determine the resources they have.

1660. Is that internal or external?

(Sir Walter Bodmer) We use external assessors internationally chosen, very often with the senior people from the United States. We believe that in this organisation we have considerable flexibility; that if we have bureaucracy it is our own fault—I hope we do not. We can respond quickly to new opportunities, we can accumulate capital for our future needs and develop long term plans. For example, this has led I think to laying the groundwork for the strength we have in molecular biology, through my predecessor's interest, which has allowed us to develop in that area quickly. I might briefly outline our structure: the central laboratories are 60 or 70 per cent of our total activity. There are about 500 scientists and technical and related staff in these and they cover a wide range of research from the quite fundamental to the more applied. We have a subsidiary laboratory at Clare Hall with about 150 scientists and general staff which also provides many of our support services, and a smaller laboratory associated with the clinical unit at St Bartholomew's Hospital. We do our clinical work not on site here, because we are not a hospital, but in the research units, in the image of the Medical Research Council units in many ways, established in medical schools in London and throughout the country. We have units at St Bartholomew's, Guy's, St Mark's which has a specialist one in colorectal cancer, Edinburgh, and the newly established one in Oxford London. Then there are smaller research units in areas where we though it was appropriate to develop them, in epidemiology and developmental biology at Oxford and in tumour immunology at University College. Then there is a smaller but nevertheless long-term commitment in research groups: we have a genetic epidemiological laboratory in Leeds, and a project on using protons to treat melanomas of the eye associated with our neutron therapy facility at Clatterbridge, and we have the development of general practitioner research in Oxford. Those are the three major levels of science and support, and then there are smaller activities such as meetings, research collaborations and international subscriptions. That is the overall structure and that is described in some of the literature we have provided. I would say we are particularly concerned with the relationship between the laboratory and the clinic and by having both as part of our activities we feel we are in a very good position to fill that inter relationship. I might also mention, since it would be of interest, that we are very concerned with commercial contacts and we actually have our own company, wholly owned and controlled by the Fund, which is really about technology transfer and which deals with all our commercial arrangements and commercialisation of any of the discoveries that we have here. To come on to some of the research areas, we still feel basic research is an absolutely major key to what we do, and I could not emphasise that more. It has created the present revolution of opportunities for new work which we do; it creates the opportunities for applications and it must be there as a support for what we do at the forefront of these applications. We could not do what we do in the major applications which we see without having the strength that we have and have built up in the basic areas. Moreoever, we hardly know what to call basic or applied work, the gap between the two is so limited that you can go from something which is quite obtuse and basic to an application so quickly. At the same time, having said that, we must continue the search for the exploitation and application of these basic areas, and by that I mean not choosing the science which you do to exploit but exploiting the science you are actually doing at the forefront of investigation, and I believe that is an important part of what we try and achieve. I would say of the areas—and I will come on to describe them in a bit more detail as we go outside—our work on DNA, the genetic material is absolutely fundamental to molecular biology; it was brought in through my predecessor and is really part and parcel of every laboratory, it is being applied in the medical and practical problems of histopathology and will become a mainstay of standard histopathology. We have to have an interest in those fundamentals because the cancer process which takes a cell from its normal state, step by step, to the cancerous state, when it has escaped from its normal growth controls, is a series of changes in the genetic information, in the DNA, and our challenge is to understand what those steps are, to identify them, and to work out what their functions are and through that to work out new approaches to both prevention, which must be our first goal, and cure and treatment. As we go out in a moment we will spend a moment showing you some of the boards which illustrate some of the basic work on DNA. Dr Lindahl's work on how damage to the DNA is repaired is very relevant to the action of carcinogens and to the genetic basis of cancer, because if we are unable to repair damage to the genetic material,

[Chairman *Contd*]

then you have an increased susceptibility to cancer. Fundamental advances have been made by Dr Lindahl and his colleagues in understanding what processes are going on there. We have fundamental work on growth control, because it seemed natural to find out what are the stimulations which make cells divide and how that is controlled. That implicit faith, that that must be important, of coure has paid off because through work with cancer viruses and through molecular biology, we now know that changes in growth control processes are critical events critical steps, in the genetic events which led to a cancer growing and this gives new approaches to specific treatments. Just to give you some idea of how we manage things, I will take one particular example, if I may, of the development of work which happens to be work I have been involved in but which I think illustrates how we might progress. It is connected with colorectal cancer which causes 19,000 deaths a year and about 25,000 new cases per year and which is the second-most common cancer overall. Over many years we have had contacts with St Mark's Hospital, which is one of the major centres for work in colorectal cancer, in fact going back 50 years or more. With collaboration, accelerated over recent years, and with the increased interest in colorectal cancer, we decided to form a research unit based at St Mark's Hospital. They have been studying for many years a very rare, inherited form, called polyposis, and ideas have developed which suggested the inherited form may be related to one of the individual steps which take place when a cancer develops. So, although rare, it is a matter of study because it may be relevant to the generality of cancer cases which do not involve an inherited susceptibility. When I came here eight or nine years ago it was natural that there was an increased amount of activity in human genetics with the ability to study the human organism genetically by making cell hybrids between human and mouse sources to look at human genes and chromosomes, and then came the development of working with the genetic material by the use of DNA probes, and many of you may be familiar with the fingerprinting of Alec Jeffreys, which is based on a phenomenon which is revolutionising what we can do. We were led to apply that to the inherited susceptibility to colon cancer and because of our resources we were in a position to do that and at the same time extend the range of work we do on the cells from which a colon cancer is derived, the particular cell type, and we were able to study the basic biology of how those cells work, with the view that if we could find out what the genetic susceptibility was, we would understand its function through the work on the cells of the cancer. We have been successful in finding out where that gene is, in that inherited susceptibility, and in showing it is in fact relevant to 25 to perhaps 40 per cent of all cases of colorectal canger. Now we can work with the pathologists at St Mark's in studying these genetic ideas and with a cancer family clinic we have set up there. We have expanded our work in the human gene mapping area, which is a major area you have probably all heard about. The possibility of finding out where all the human genes are and using that information is extremely important to us, and we have expanded that work by bringing in one of the best groups in the world—an Austrian couple who were working in Heidelberg, who had many offers to go to the United States, but who can now help us in the search for the gene itself and its functions. We are also looking for new approaches, through the provision of screening for the disease and finding new ways to prevent it. I mention that because it involves such a wide range of activities—the clinic, epidemiology, the family study, the primary support services, the pathologist, and now we can build a programme by managing it, by bringing in people in the right way, by introducing them to the work we do and by looking forward in our development, so for example we are expanding our colorectal unit in directions we believe we will need as we can apply these advances. I mention that simply as an example of the way we draw on and build our research activities, where every component has its own control, has its own interest, but we can work together to achieve something which I think simply would not be possible without all these different components working together. I wonder if at this stage we could move out and show you the boards and then move to the laboratories?

Chairman] Thank you very much for that introduction. I am sure members of the Committee will have many thoughts and questions on that very interesting statement you have given us, but I suggest we do those later otherwise we will start the question session now.

(The Committee then made a tour of the laboratories)

Chairman

1661. I think we had better make a start on the next session.

(Sir Walter Bodmer) Having given you some idea—perhaps more of an impression than detail—I thought we would go to some of the particular points which relate to our submissions to you. We felt we would not cover the rather general points connected with the extent of charitable support in our discussion, because you will be discussing that this afternoon with the Association of Medical Research Charities, and thought we would rather focus on our own activities. I would like to ask Professor Malpas to tell you about his work and the problem areas.

(Professor Malpas) It has long been a policy of the ICRF to support clinical research in centres of excellence, and it seems self-evident that the proper diagnosis and correct treatment of patients with cancer according to carefully laid out programmes would contribute to an understanding of the disease and help to increase the number of cures of patients with the disease. For that reason extra-mural

[Chairman *Contd*]

departments have been set up at Guy's Hospital, and you have already heard about the units at Bart's and St Mark's, Edinburgh and very recently Oxford. There are other units supported by the ICRF at University College Hospital, the Hammersmith Hospital and the Institute of Child Health, so we cover the whole range of human cancers from childhood to adulthood. The particular interests of the units might also be said to be historical. For example, it is correct to say that breast cancer has been a long-standing interest at Guy's, and following Sir Ronald Bodley Scott's work at Bart's on leukaemia and lymphomas that is their major interest, and we have added to that the interest at Bart's of children's cancer. One of the features I think of the clinical unit is the very close interaction not only with their own laboratories which are supported by the ICRF but also the laboratories at Lincoln's Inn Fields, the ones we have just been to see. There is a great deal of interplay and support, and one of the most important features of those units is that they allow one to study the cancer patient, to get material—biopsies, blood, bone marrow from these patients who have been carefully diagnosed—accurately studied and in whom so far as possible everything is known about the disorder. This is very important. There are of course continual new developments in the development and spread of the units, and we have heard already this morning there is a new development at Oxford with an extensive ward building programme and laboratory building programme, and of course a very expensive on-going recurring cost in that area. The unit that I work in at Bart's has been grafted on to a teaching hospital, so we have all the present difficulties and constraints with regard to beds and facilities and we of course do make a big demand on such facilities as haematology and radiology, and have obviously to take our turn with the other departments in using those facilities. To go on: most innovative clinical cancer research in the last two decades has been done in the field of medical oncology, which is the treatment of cancer by medical means. The associated laboratory studies or applied studies have included, of course, a variety of studies such as how anticancer drugs behave in the body, how they are metabolised, how they are excreted, the whole field of pharmacokinetics. Then the other problem is the drugs themselves; they are very, very toxic, even affecting a wide variety of normal tissues, and we have been looking into ways in which one can protect the normal tissues from the effect of these drugs. That has led to the development of supportive care, taking patient's bone marrow, treating it by the use of monoclonal antibodies, cleaning it of the cells which are cancerous and enabling the bone marrow to be put back after the treatment, either intensive chemotherapy or radiotherapy, has been given. This enables the patient to survive these very intensive treatment programmes with the hope, of course, of eliminating the cancer. Time does not allow me to go into the details of the types of tumour which this is being used for, but we have hopes this might be a reasonable approach. To do this we have of course had to have medical oncologists and in a survey I conducted on behalf of the College of Physicians recently, we were able to identify about 60 medical oncologists in Great Britain. I would emphasise that eleven of these were wholly funded by the ICRF, in other words some 18 per cent of the total of medical oncologists in this country are supported by us. The Health Service currently supports 30 that is, 50 per cent of those medical oncologists. Something we have not touched on very much at the moment is the importance of these units in training young people, not only training them in cancer medicine, how to investigate, diagnose and treat these patients, but also we hope very much all of them will undergo some sort of scientific training as well. Indeed in my own unit we do not accept anybody who does not wish to study for a PhD or equivalent.

1662. Are those all medical or are there also science based-people?

(Professor Malpas) It could be either. We have a clinical research programme in which they can take part, but because of this close association with the laboratory one of my scientists has gone into cytogenetics and has done extremely well under the direction of a scientist there and has been involved in studying the cytogenetics of chronic myeloid leukaemia. In response to the Joint Policy Advisory Committee, of which you will have heard, we have had to look at the number of senior registrars in training—for those of you not in medicine these are largely the more senior people from whom one would hope to recruit one's future consultants. Of these there were 25 senior registrars in medical oncology, and it is again important to note that six of them, or nearly one-quarter, are currently funded by the ICRF. So we are making an important contribution to the funding of the next generation of oncologists. Let me expand on what is being done and the kind of support we receive clinically from the ICRF: I believe good clinical care is good clinical research, and clinical care now of course involves nursing and other ancillary work but particularly nursing where it has to be of a very high grade indeed. Some of these nurses are involved with, for example, the cell separator team which works in my unit where they are busy preparing platelet concentrates, blood concentrates and other products of blood on cell separator machines, and the nurses do all this, producing hundreds of units of platelets for transfusion into patients having intensive care. In that we could not do our clinical research without these nurses, the ICRF actually produces a cadre of highly trained nurses for us to do this kind of work. Going even further, and perhaps into my own particular specialty, is the management of children with cancer. I have to point out that at the end of the 1970s in Kenton Ward, which is our ward devoted to this subject, we were due for closure because the

[Chairman *Contd*]

thing had got so expensive and we were in such difficulties, and if it had not been for the ICRF stepping in at that time and helping us with the funding of nurses and other materials including drugs that we needed, we would have had to shut the ward. We feel in the subsequent years, when we have treated over 1,000 children and have had a very fruitful research programme, that this investment has been well worthwhile, I hope from the I.C.R.F.'s point of view and certainly from our point of view. It is an example of how far charities have to go in fact to support research in cancer. I have not said anything about the aspects other than medicine, but of course we do have a very active programme in pyschosocial studies, the supportive care of parents and so forth, all of which are part of research looking at why parents are in difficulties with children. For example, we identified the worst problem for them as being the cost of travel. We have looked at how well they do in education and these patients are not doing badly, in fact they are doing quite as well as their peers as far as education is concerned. Other things like that will come out of our careful studies of these children. Finally, I would like to give you an example of how severely the lack of university funding could have affected our department at Bart's. Currently in my department I have 12 whole-time doctors and one half-time and five secretaries. The department was set up in 1970. If we had had to rely on university funding alone I think it would be fair to say I and one secretary would be left in this department. We have been sheltered from the cold wind of economic problems which has been blowing through the rest of the service, and we have actually a full complement of doctors, many of whom are working on research, and an adequate secretarial back-up and we are extremely lucky.

(Sir Walter Bodmer) There were one or two things I would like to highlight further. We have emphasised basic research but I did want to bring your attention to one aspect of our work on prevention and to emphasise that prevention is very important to us. You asked us to comment on priorities and we must put prevention at a very high level in our priorities, but I would say that we must interpret that broadly so some of the very basic work is as relevant for prevention as some of the more applied areas. Basic work on new substances made by cells can lead to new screening tests for cancer, and the rather basic work on the way hormones influence cells—which was hinted at when we were looking at breast cancer—may well have practical consequences on the role of oral contraceptives in breast cancer. Nutritional effects on cells can be studied in the laboratories as well as in epidemiological studies. We believe it is very important in the prevention area that the delivery of the message must be studied. I want to bring your attention to the fact we are increasingly developing a programme of research using the primary care system, using general practitioners. We have been involved in the promotion of the cervical screening programme and how best to put over information to the general practitioners. We are involved in a study for a test for leakage of blood into the stool. We have established a small group researching into general practitioner epidemiology and projects to present the message on smoking. We are about to set up a new research unit in health education based on the Maudsley work and using general practitioners as a major vehicle for these various investigations. We are also very much concerned with the development of innovative aspects of computing expert systems, which is another interesting mixture of the basic and clinical ones; the basic part being the development of the sophisticated computer programmes and their applications. This is rather a different area but one we believe which is just as important for what we do. The aspect of training has been mentioned: we have post-graduate students, and post-doctoral fellows, and they are an important part of our research force and these are a resource we are finding it harder to come by. We manage, as everywhere else in the world, with greater difficulty, and we think there is a case for studying the problems underlying that. To pick up a point which Professor Malpas made, we have an increasing programme of clinical research fellows, which means taking qualified people who have gone quite a long way in their clinical training and giving them a full time PhD period in the laboratories here and then helping them to get back into the clinic. We believe this is a very important source of people for research training for medical people and something which could well be done more than it is. We depend strongly on university interaction as an essential source of most of the trained people we have and as a base for many of our new activities. As I hope we have emphasised, we believe that in many ways we exemplify the idea of an interdisciplinary research institute which we hope is well managed but not directed from on high. The last point we would want to emphasise, which is not so much specifically related to our activities but which we believe is very important, is the difficulties which are faced by the Health Service, in the first place when research areas go through the transition to service (and there are many examples of this and in a way you have heard it from Professor Malpas), and the extent to which we in the course of our research may be supporting what is and should be a service. In some cases that is a necessary part of our research, in other cases when the researcher has established something we may still be supporting it when it should be a service. We believe there is a very strong case for more and better forward planning in the Department of Health to take account not only what is possible now in the existing population and what could be done with the available technology, but looking in terms of the research which we and other people do and see what is likely to be needed in five, ten, twenty years time. We cannot see how, without that sort of careful planning, one can come to any sensible decisions on priorities in medical care with an

[Chairman *Contd*]

inevitably limited budget, even if one believes it should be somewhat substantially higher than it is now. I think we have said more than enough and ought to answer your questions now.

1663. Thank you very much for that introduction. You have presented us with many ideas on which we would like to question you. Perhaps I might start from the chair by saying I was very interested in the fact you are not a grant-giving organisation. Is that historical or is there a philosophical argument for it?

(Sir Walter Bodmer) It has both an historical and a philosophical argument. We have always been like that. We were started in a much smaller way as a laboratory without giving grants, and that was in 1902, before any other cancer charity existed and before the Medical Research Council existed in this country. We believe though that it is right to do as we do, and that is not meant to be a comment to say there is no value in grant programmes. We think in order to do what we want to do it is right that we do not give grants in that way. We have the feeling if you give a grant, people take it and go away and do their own thing and you cannot have the sort of integrated programme and interactive programme which we have. You cannot manage it in the way we think we do to effect without directing people, giving our people, wherever they are, here or in our units, the maximum opportunity to develop their own work.

1664. That means your staff would be more secure, in that they have more long-term funding whereas many of our witnesses have complained about the short-term nature of the grant-giving mechanism; as soon as they start on one, they have to be thinking about where they are to get the next one from?

(Sir Walter Bodmer) My personal view is that far too much emphasis is placed on the project grant system and it influences our present philosophy. We give long-term support, we do it with review, and it does not mean of course that all our staff are tenured. We have a career structure with post-graduate students, with research fellows, with limited appointments but it is defined. Our programme of work is a long-term basis of support. Senior staff do not have to go out for grants. It is often asked how can our people get money without having a grant; our younger people can get money because they do not have to get a grant. We put our faith in their quality. We put them into an excellent research environment and let them get on with it.

Lord Adrian

1665. It sounds like a university department!

(Sir Walter Bodmer) Even university departments have that sort of support with university research centres.

Baroness Lockwood

1666. Your career structure is self-contained, but does it in any way interact with the career structure in the medical schools or Health Service?

(Sir Walter Bodmer) We base our career structure, obviously, very much on the existing career structures in the Medical Research Council and universities and in the clinical setting. Some of our appointments are reimbursed appointments; it may sometimes be better to reimburse a university post than to pay for it ourselves. We have mentioned our concern about overheads because of the way the UGC are calculating what is going to universities and we are against that, we believe we should have the freedom to either reimburse or make our own appointments in consultation with the relevant organisation. Our salary structures follow those which are nationally determined but we are more flexible, and as a matter of policy we are more flexible. We believe there is a limit to which, even in an excellent institution like this, we can get people without paying them enough.

Chairman

1667. One of the difficulties I think is this question of having to cover the overheads of academic research on which you feel quite strongly. Would you like to say something about that? You have mentioned it in your excellent paper, for which we thank you very much.

(Sir Walter Bodmer) We are different from many of the other charities, although by no means totally, in that we probably provide a greater element of the overheads than many others would. This is partly because we do not have a grant programme and the essence of the grant programme is not to provide any overheads, and this is in a situation where the dual support system is providing an adequate base line from the universities.

1668. If it is not doing that, then there is real trouble?

(Sir Walter Bodmer) That is certainly the case. Traditionally we have, and other charities like the Wellcome Trust and the Cancer Research Campaign, given support monies for buildings, endowed university posts, and those are all part of the overheads. We provide in some cases the running costs for buildings, in a building where we are totally self-contained. We do provide to that extent for overheads and we believe it is appropriate, but we do not provide it on the basis of a fixed percentage or fixed contribution to libraries or anything of that sort, and we would be against a formula like that because then we would have to dissociate ourselves from the need for that and create our own free-standing establishments in university environments which are taken advantage of. We think there has to be a middle ground where it is proper that some of the overheads specifically related to the activities we are involved in are covered, but there is a risk of taking that too far and in the end you make the limited money which is available go less far.

1669. Can I be devil's advocate on this: if you do it in-house, which you do in 70 per cent of the cases,

[Chairman *Contd*]

you have to pay the full overheads, so why not pay for the overheads on work which is done out of house?

(Sir Walter Bodmer) When we have a unit in a university and in association with a medical school we are in collaboration with the university and medical school, and therefore we are contributing a considerable amount, often more than we might be called on, as Professor Malpas has said, in providing substantial amounts to the Health Service. That is not unreasonable and in most cases we have no difficulty and the university also provides a little. Our negotiations, when we set up new units, such as the one in Oxford, are nearly always tripartite—ourselves, the university and medical school and the health services. In that case they were done in an extemely effective way, they involved the establishment of a new endowed chair, a new department in the university of clinical oncology, new facilities within the hospital, and all of that was done with a professor appointed within a year. Now we are seeing a complete programme come under way. We are flexible but the more we are called upon to pay, the less we can do, so we think it sensible to have negotiation.

Baroness Lockwood

1670. Some universities are finding it difficult to take up the establishment of a new chair not only because of the pressure on UGC resources but from the Health Service too. So sometimes you might be faced with a choice?

(Sir Walter Bodmer) We have been faced with that choice and our answer is that we pay what it needs. More than £400,000 guaranteed a year for the first ten years simply to keep the clinical service going, and if we did not do that, we could not have put clinical oncology in Oxford. That is far more than we should be doing, but we believe we have to do it. So we pay the going price in order to get something underway. We have never been refused.

Chairman

1671. You pay for what you want rather than what other people want?

(Sir Walter Bodmer) Yes, and we think that is important. If we were faced with, "Pay 40 per cent of all employees' salaries", we would say, "No, thank you."

(Dr Crumpton) Sometimes requests made upon us border on the unreasonable. In the Oxford negotiations there was a time when we were being asked to pay for the food and the drugs for those particular patients. The argument from our point of view was, if they were actually in hospital, irrespective of being in our unit, they would have to be fed and treated.

(Sir Walter Bodmer) Of course the converse related to the distribution of patients and the historical situation was that there was no clinical oncology in Oxford. We were creating a unit in a situation where there had been no medical oncology to any extent before.

Lord Rea

1672. You did mention the clinical research fellows here—and I do not just mean in this unit but generally in the ICRF units around the country—you said you have them here for a while and then help them back into the clinic?

(Sir Walter Bodmer) Yes.

1673. Are you talking about clinics run by the ICRF or back into the National Health Service?

(Sir Walter Bodmer) We have basically two sorts of clinical fellows. We have some, whom I was specifically referring to there, who come into full-time research for at least three or four years and they have their membership or their fellowship of the Royal College of Surgeons or equivalent, and we believe that is the way that at least a small and significant cadre of academic medical researchers must be trained. In addition we have the sort of fellows whom Professor Malpas would have in his unit, who do a mixture of clinical and research work but where clinical work is 50 per cent of the total. I was referring particularly to the former programme, so after they have been three or four years with us, we believe it is important to ensure they are returned into a clinical setting. During the time they are with us, we make the arrangements for clinical contact. Wherever possible we use our own units, so if I have a fellow in my unit who is a pathologist, he may be connected with the pathology department associated with Professor Malpas's unit, or Dr Crumpton may have had someone in his laboratory doing a PhD who was one of the clinical fellows with Professor Malpas and while doing his PhD retained that contact. We say we will guarantee their payment for at least one year back in clinical work, and in my wife's unit we had someone who went back to his medical school at Hammersmith. In fact most of our people are so good, they go on and get proper jobs. Otherwise we would be wasting the potential of that training. I would emphasise the importance of this level of appointment, they are the main medically qualified people we have in the laboratories and they bring with them medical knowledge and maturity.

Chairman

1674. In view of their excellence, are they being attracted out of the country?

(Professor Malpas) I did an exercise the other day to look at what happened to 20 of our clinical fellowships, not the ones Sir Walter was talking about but the ones who went through my unit. Of those 20 all have achieved tenured positions, except one who did not like medical oncology and went back to being a general practitioner. The answer to your question is that of those 19 over the last 10 years we have been running the programme, five have gone abroad—there are three currently in North America, one in Australia, one in New Zealand. When our people come to the end of their fellowships they are faced with either going back into formal university positions or into the National

[Chairman *Contd*]

Health Service as consultants. They are successful; all our fellows have achieved a tenured position either as a consultant in the NHS or as a senior lecturer or reader or professor in a university.

Lord Adrian

1675. Could I ask whether the proportion going abroad differs as between scientific PhDs and medical people? What happens to your non-medically qualified people who do PhDs?

(Sir Walter Bodmer) The vast majority of PhDs want to do post-doctoral positions abroad.

1676. Do they come back?

(Sir Walter Bodmer) We do not have accurate figures but we do see a significant number back. We do make an attempt to follow those we consider the most able and encourage them back to appointments here. In many cases we are successful. It is like the old European Grand Tour of the 19th century, the grand tour of scientists is to go as a post-doctoral fellow to the States, and increasingly to other parts of the world particularly Europe.

1677. How far do you find Americans coming here as post-doctorals?

(Sir Walter Bodmer) A large fraction of our post-doctoral fellows are from abroad. This is part of what I was suggesting should be investigated and maybe Dr Stark and Dr Lindahl could comment on this. There was a very strong component from the States but that has declined for a variety of reasons, partly it is declining within the States and partly it is the perception of what can be done here, but less that. There are also greater constraints about losing out if you do not stay in your own country. We are increasingly looking to other collaborations; we have exchange programmes with institutions in Czechoslovakia, we recently established one with India and we have many visitors from China, and we are looking forward increasingly to exchanges with European countries. At our pre-doctoral level an insignificant number are from abroad.

(Dr Stark) I think it is certainly true that there are many fewer Americans in British laboratories than there were a number of years ago, and as Walter has indicated there are a variety of reasons for this. I would just reiterate what he has already said, that there are fewer post-doctoral appointments for everyone and together with the availability of jobs in the States, which are fewer than there used to be, this means post-doctoral fellows feel they have a better chance if they are in the country and in immediate touch with the job market. It is more of a risk for them to go anywhere outside, and that is something we hope we will be able to counteract.

(Dr Crumpton) It is also true to say that in general science and scientific research in this country gets rather a bad press overseas. Sometimes it is done by John Maddox in *Nature* for a particular purpose, perhaps drawing attention to problems we are currently faced with. You are dealing with an international magazine which is read by everyone and people see that scientific research in the UK is so bad there is no point in going there.

Chairman

1678. One of the things which has come out clearly from many witnesses has been the intolerable pressures being put on clinical researchers because of the shortage of staff in the National Health Service to give full priority to patient care, naturally, and leaving very little time for research and therefore leading to frustration and dissatisfaction. When your clinical staff go out into your units, their research time is probably protected, is it not?

(Professor Malpas) I think we are incredibly lucky; it is indeed. We can work out a programme and say how many years or months they will spend on that programme and then get them back into the clinic. So we are talking from a very, very privileged position. I stand alongside my colleagues in general medicine who are supported by universities or some other organisation, and see the terrible problems they have. It is true there is less and less time available for research and there are less posts available to be filled. Of course, as you rightly say, the patient care must come first and they are so involved with patient care it is very difficult taking these young men away, even for a short time, to be able to carry out any organised research. That is one of the reasons why the quality of the medical research has generally not been so good. I think one has to admit it, there is not the time available to do it. For example, we were talking earlier about people coming from America, what we have done is in fact to send many of our young people who have started off with us to complete work or work in prestigious organisations like the Dana Farber Cancer Unit in Boston, where they have been looked after extremely well and returned to us bringing with them a great deal of benefit and very often techniques which we are currently employing.

1679. Would you have any thoughts on how that position might be better protected?

(Sir Walter Bodmer) In our case it is a matter of the philosophy of how we spend our money. We choose to support our own scientists and medical people to the extent which is needed to get the best work out of them.

1680. But is it not at the expense of patient care?

(Sir Walter Bodmer) If we need patient care, that is part of the necessary cost to our institution, and that is the only way you will get the best quality work. That is true also for full-time research work in our laboratories and outside medical research as well. We can draw a similar parallel in universities and the time available for teaching and research. Before I came here my whole life was in the university setting and when I see the people I have left behind, even at excellent places like Oxford,

[Chairman *Contd*]

and the problems they have getting research support, I can see how much more they would do with full-time research such as we do.

1681. This means greater awareness and willingness to provide the necessary staff in the National Health Service?

(Professor Malpas) The one thing which is outstanding is the necessity for more staff. That, of course, is complex because at the other end we have now got this JPAC programme where we are being limited in the number of junior staff so there will be a proper career structure. These people who are doing research are the bright, young people, and in medicine as you know the consultant is not appointed until he is 38, 40, possibly in some cases a very late stage in his productive life. Really there ought to be more posts for people to do research and then to go on to a post which will enable them to go on continuing their service care to patients, but at some time in their life there must be more opportunity to do research at an age when it is reasonable, say 28 to 35, in medicine anyhow.

Baroness Lockwood

1682. That is going to inhibit your policy, is it not? Sir Walter has said that if it is necessary to provide all those youngsters, then you will provide them, under JPAC it is not possible for you to put in more senior fellows?

(Professor Malpas) Absolutely right. I think it was drawn up to limit the numbers and improve the career structure. The great dilemma is how you do that and at the same time have enough opportunity for younger people to be in posts to carry out research and improve medicine and at the same time be guaranteed some long-term tenure and appropriate careers. I think you are absolutely right.

1683. So you may not put in an additional registrar?

(Sir Walter Bodmer) To some extent we solve it by creating our own senior appointments through the chairs we have established, through the consultancy jobs we have—we create our own next-level-up.

(Professor Malpas) I proposed to JPAC that by 1992 there should be 100 medical oncologists in Britain, and that would be an expansion of between four and six a year. I was delighted when they said they would approve of that, but then they said that our 25 senior registrars is about right, at which my face fell because that means really we cannot have any more.

(Sir Walter Bodmer) There is another problem, especially in London, and it is connected with research. Where we have specialist units, and this has happened at Guy's in breast cancer, you need a certain concentration of resources on the basis of which you can do your clinical research work. If the referral of patients from outside is not adequately taken into account in providing the Health Service-based resources, we lose the basis of support for the clinical care we need in order to run an outstanding research base. So we are more and more pushed into providing an absolute minimum, and that is an internal problem of redistribution. Our view would be that it must be recognised there must be some places where you maintain an adequate centre with good referral and support as an intrinsic part of the National Health Service and on top of that you have your medical research. If you spread everything about, you can no longer retain centres of excellence where research can be done.

Chairman

1684. How do you debate an issue like that with the Department of Health?

(Sir Walter Bodmer) We get together with the district and regional managers and try and argue it out.

1685. On a district and regional basis?

(Sir Walter Bodmer) Yes. We have done so far, rather than going to the Department. This relates to my point about overall planning. We feel there is a lack of overall planning in taking into account these problems.

1686. Overall planning is not very popular with the present Government. They have seen too much about planning in the past and it has rather got a bad reputation, but here you see a need?

(Sir Walter Bodmer) I suppose the planning is in a sense having the information available; the research which is needed is to say what is really needed to provide all the resources for the different aspects of care which we can now do. Talking informally with Professor Brian Jarman, Professor of General Practice at St Mary's, he has been doing some analysis which led to a different focus of what resources from the Department should be awarded to different districts. I am thinking of an element of research on the provision of services which can underlie proper planning and particularly looking to the future.

1687. This will be Health Service research?

(Sir Walter Bodmer) Yes.

Lord Hunter of Newington

1688. Do you think the Chief Scientist's organisation is any good?

(Sir Walter Bodmer) I do not want to criticise the Chief Scientist's organisation—in fact he is coming to have lunch with us in the near future and we can discuss these problems! I would criticise the totally inadequate resources they have available to do this sort of research. Everybody tells me, that it is all part of the Rothschild agreement and paying this back the MRC, but they do not have enough to do what they want to do. That has to be changed if you are going to have a decent Health Service programme.

Chairman

1689. Would you see this as something which might be better done in the regions? I particularly would say in that respect that some of us who have been looking at the situation in Scotland got the impression it was rather well done, and that might be regarded as a region.

(Sir Walter Bodmer) I am not sufficiently expert to comment on the detail. One would have to take into account the regions and try and spread that work. My concern is that there needs to be an overall picture. How best that is achieved is another matter, and it may well be it is best achieved by collaborating between regions to take the different aspects of research. It does seem there is this need for an overall picture and a need for projecting into the future. One thinks of the development of treating eye melanomas with proton beams. This is an expensive business and we have already put £3 million into it and are given to understand it is likely to be successful and we want to step it up as a research project over the next five to ten years. There are some 4 or 500 patients a year who can be potentially treated. If it turns out to be successful, should we continue to maintain it or should that become a Health Service responsibility?

Lord Adrian

1690. In circumstances where you have something of this kind, how do you set about arguing with the DHSS that it is their responsibility? Plainly from the DHSS point of view, if you are prepared to carry on, that is what they will attempt to achieve.

(Sir Walter Bodmer) We have not done yet, but we are going to need to more and more in the future. The most obvious areas I have been involved in in the past is in some of the clinical services, cytogenetics and tissue-typing, supported for a long time by research laboratories and which gradually made the transition to service. I think there needs to be more discussion of how those transitions are made and planned for.

Baroness Lockwood

1691. Supposing we did have research and planning, looking into the future, then it might have to be determined that there were certain areas which were too expensive for us to be involved in. That could have an effect on your own programme?

(Sir Walter Bodmer) Yes, but would it not be better to——

1692. How would you fit in?

(Sir Walter Bodmer) ——make those decisions on the basis of adequate knowledge rather than on the basis of arbitrary pressure groups? At the moment one pressure group says one thing and another pressure group says another, and we have no overall picture of what the need is and what we ought to have available. At least if we had the information, we could make decisions on priorities based on some consensus.

1693. You think that would assist you in making your priorities?

(Sir Walter Bodmer) I think that would have to. We were having discussions just the other day about a programme of new approaches to screening for ovarian cancer with ultrasound and sophisticated imaging of the sort we were describing in the laboratories on our tour. It is quite possible over a period of time one could develop a screening procedure based on that strategy which would lead ideally to the prevention of the vast majority of ovarian cancers, which is twice as many as cervical cancer, namely about 4,000 a year. That would be a major achievement but then somebody would have to decide whether that is affordable. You have the same problem with breast cancer screening. The Forrest Report says, "Let there be breast cancer screening", but that costs money. Who is going to pay for the evaluation? Has any real thought been given to how that is paid for?

1694. Some of the smears are piling up in some hospitals.

(Sir Walter Bodmer) Yes. We have found in order to support our research programme on what to do about cervical cancer screening, we have given a small amount of money to a DHSS computer activity in Exeter in order to keep going what we felt was necessary for our research.

Chairman

1695. Would you see the mathematics, the economics of the proposed treatments playing an important part in the analysis before applying these new technologies throughout the Health Service?

(Sir Walter Bodmer) Yes, first and foremost evaluating their need and their cost and then applying.

1696. There is no mechanics for that at the moment?

(Sir Walter Bodmer) We want the equivalent of a Think Tank in the DHSS at an adequate level.

1697. You want to be looking at that all the time?

(Sir Walter Bodmer) Yes.

1698. Can I introduce your relationship with the MRC? You have a very large programme of your own funded from your own resources. How do you relate what you do to MRC?

(Sir Walter Bodmer) There are two ways to answer that. First, and probably the most important, is that we have extensive personal and informal contacts and these are very important. They derive from the fact that I have sat on boards, Dr Crumpton is a member of the Medical Research Council itself, others sit on boards, the present and former secretaries were personally known to us and we meet regularly and discuss areas of common

[Chairman *Contd*]

interest. When we identify those, we get together and work out some collaboration, for example recently with the Institute of Molecular Medicine in Oxford and the proton therapy group in Liverpool and Clatterbridge, which we have talked about. We are now discussing education research. These are active collaborations with the Medical Research Council. We believe it works well and we are complementing what they do. Then, in addition, there is the United Kingdom Cancer Co-ordinating Committee which was set up some years ago, particularly at the instigation of my predecessor, which brings together the Medical Research Council, Departments of Health, the major cancer research charities, in particular ourselves and the Cancer Research Campaign, but also the Leukaemia Research Fund and others, and it is a forum for discussion and exchange of views which often brings up areas where there is appropriate collaboration, and then there is a series of sub-committees which look at clinical trial programmes and other care programmes. We think it works well. It gives this forum for discussion including the charities, which we think is very important. Maybe you will discuss that later this afternoon.

Lord Sherfield

1699. Is this co-ordinating committee limited to cancer alone?

(Sir Walter Bodmer) Yes, it was started specifically as a cancer co-ordinating committee.

Chairman

1700. Does that not present a difficulty because so many of the technologies which are now developing arise from the DNA work and have implications on many other areas?

(Sir Walter Bodmer) Yes, but the Committee is set up to discuss specifically cancer related areas. Sometimes we may discuss safety problems and animal experiments, which have other implications. The Medical Research Council, for example, may spread the knowledge that comes from that committee and the advice from it into other areas.

1701. They would do that?

(Sir Walter Bodmer) Yes. The Committee would not see that as its responsibility.

1702. The MRC would do that itself?

(Sir Walter Bodmer) I presume that is the way it works, but there is no formal mechanism for it.

(Dr Crumpton) That is true; for example, the difficulties which arise in terms of AIDS, in terms of collecting blood and tissue samples—that has certainly been discussed with in the UKCCCR. The implications which have come out of that discussion and the wider significance for medical research in general would be a problem for the Medical Research Council.

1703. Who staffs it?

(Sir Walter Bodmer) It is staffed from the MRC but supported by the two major charities. The main financial support comes equally from ourselves and the CRC, and the MRC provides implicit support through the staff. It is really a tripartite agreement with a small contribution from other charities.

1704. Do you find your relationship with the MRC getting more and more difficult as they get more and more squeezed for funds?

(Sir Walter Bodmer) Not really. I would say at the moment they are really very good. We have common interests. Where we see a case for collaboration, we discuss it, and we have to be sympathetic to their problem with funds. I do not think we have seen increasing difficulties. It may mean there are certain things we would like to do but if the MRC cannot put enough into it we may not be able to do it but on the whole that has not been the case so far. The MRC specifically in the cancer field has traditionally, and for historical reasons because of the cancer charities, played a relatively lesser role.

1705. You are getting into the rather curious situation where the charities in the country are going to have more funds than the MRC?

(Sir Walter Bodmer) Yes.

Chairman] I think we had better conclude this session now, it has been very interesting.

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MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

at

IMPERIAL CANCER RESEARCH FUND,
LINCOLN'S INN FIELDS

Tuesday 1 December 1987

ASSOCIATION OF MEDICAL RESEARCH CHARITIES

Major-General Dennis, Dr D Evered, Colonel A N Brearley-Smith, Dr M Crumpton,
Professor S Howell, Dr J Austoker, Ms D Garnham

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TUESDAY 1 DECEMBER 1987

Present:

Adrian, L.	Nelson of Stafford, L. (Chairman)
Hunter of Newington, L.	Rea, L.
Kearton, L.	Sherfield, L.
Lockwood, B.	

Memorandum by the Association of Medical Research Charities

SUMMARY

The medical research charities make a substantial contribution to basic and clinical research in the United Kingdom, which exceeded £100 million in 1986. This figure is increasing rapidly and is expected to exceed that provided by the Medical Research Council (MRC) within the next two years. The funding strategies of the AMRC and MRC, although overlapping to a certain extent are complementary and there are important differences between the two.

A. The factors which determine research funding policies vary considerably from sector to sector—reflecting differences in mandate and orientation. Research does, in general, reflect present health needs in so far as is practicable. The constraints on the research community's ability to respond are one or more of the following: an inadequate knowledge base, insufficient numbers of trained researchers and inadequate resources.

B. There is a balance between fundamental and clinical research in different disciplines. The AMRC is particularly concerned for the future of basic and clinical research in the United Kingdom.

C. Medical research has, in general, adapted well to changing needs subject to the limitations noted above (A).

D. Priorities are influenced substantially by the institutions through which research is funded. The funding policies of these institutions are complementary.

E. The results of research are adequately disseminated to the research community. Many charities play a significant role in educating medical practitioners and the general public.

F. There is relatively little unnecessary duplication of research.

G. Research is not always reflected promptly in improvements in patient care or health education. Problems include delays due to lack of NHS resources, inadequate postgraduate education facilities for doctors, financial constraints on industry and limited funds available for health education.

H. The AMRC is particularly concerned about the future of clinical and basic research. The reductions in training opportunities, poor career prospects and a number of professional and financial disincentives mean that research is now rarely seen as an attractive career by the best medical or non-medical graduates.

I. (i) There is an urgent need for a national forum in which all major parties concerned in biomedical research would be represented. The principal purposes of the forum would be to discuss matters with the object of maintaining an adequate science base and to determine a framework for future activities.

(ii) There is an urgent need to review training programmes and career structures for non-medical and medical graduates. There is a strong case for the evaluation of research funding processes, outcomes and application. Policies and structures must be based on facts if science resources are to be used to best effect.

INTRODUCTION

The Association of Medical Research Charities was founded in 1972 to provide a forum for the Chief Executives of a number of major charities to discuss matters of common concern and to hear from visiting speakers of trends and developments of significance for medical research. The Association has played a key role in improving contacts between its members and has provided the basis for collaboration on a number of projects. These contacts and collaborations have helped to minimise duplication of effort and maximise the effective use of resources.

In response to changing circumstances, the Association of Medical Research Charities has now re-established itself as a formal organisation, registered with the Charity Commission and incorporated under the Companies Act 1985. The charitable objects for which the "new" Association has been founded are the advancement of medical research in the United Kingdom generally, and, in particular, the advancement of the collective effectiveness of those charities of which a principal activity is medical research. The Association therefore aims to represent its members collectively in the forums responsible for the formulation of national policy and the direction of the medical research enterprise.

Over the years the members of the Association have become a major force as a result of their substantial and increasing financial contribution to basic and clinical research in Britain. The collective contribution to medical research from present members exceeded £100 million in 1986 (a sum almost equal to that provided by the Medical Research Council). This figure is increasing rapidly and is expected to exceed that provided by the Medical Research Council (MRC) within the next two years. The new Association provides for the first time a collective voice for this contribution and a single point of contact for those needing to consult the charitable sector on medical research. It should also be noted that a small number of major national medical research charities are not at present members of the AMRC—but a substantial number of these have now applied to join the "new" Association. In addition, a number of large charities, which are not committed exclusively to medical research and many local charities who are not members of the AMRC, also make very substantial contributions. No precise figures are available for the sums involved—but taking all these contributions into account, the total provided by the charitable sector is certainly very much higher than £100 million per year.

The charities and the MRC are the most important, although not the only, sources of funds committed to medical research in the United Kingdom. Their funding strategies, although overlapping to a certain extent, are complementary. It is essential to stress, however, that there are important differences between the MRC and the research charities. The aim of the MRC (restated in its Corporate Plan—1986) is to sponsor research which will improve the health of individuals in the community. The MRC particularly identifies among its major national areas of responsibility: (a) investment in long-term basic research (largely carried out in its institutes and units); (b) identifying and supporting the most gifted individuals; (c) the provision of resources for training. The charities have an important but proportionately smaller commitment to basic and long-term research but they retain a larger proportion of their funds for shorter term projects. The charities have a great deal of flexibility and these short-term grants serve two main purposes: they provide seed money to test the feasibility of new ideas and new techniques and they also provide funds for clearly defined projects of limited duration.

The charities also differ from the MRC in other important respects. A substantial majority of the charities raise funds which are donated for a specific purpose and are dedicated to research into a single disease or group of related disorders. A large proportion of these funds is committed to clinical research. Such charities raise their funds directly from the public, and the amounts raised reflect the public's perception of the relative importance of these diseases. This is the only mechanism by which the public can have a direct influence on the distribution of research resources, and thus is of particular importance. It does, however, have some limitations. The foundations, which exist as a result of corporate or private philanthropy are able, to a certain extent, to play a complementary role. These bodies are less restricted in their range of activities and are able, in addition, to include basic medical science and to support those areas which do not command public interest and which would otherwise be neglected by the charities. It must be stressed that the range of activities which any individual charity can undertake is determined and limited by its constitution.

The charities are now the major source of funds for biochemical research in the universities. The funds provided by the charities have assumed an additional significance in recent years since a number of charities have drawn upon their reserves to ensure that important research continues—an exceptional response at a difficult time. It should not be thought however that this progressive shift from the public to the voluntary sector can continue without inflicting lasting damage on the research system. The charities cannot take on additional responsibility for maintaining and strengthening the research base without at the same time reducing their ability to act as flexibile and adaptable sources of money for new and innovation research. If the charities are forced to assume such a responsibility it would probably lead to a reduction in income for those charities (the majority) that collect directly from the public. The public is unlikely to give so generously to charities which undertake responsibilities perceived to be those of government.

Research is conducted by the charities in a wide variety of ways. Broadly speaking it ranges from work carried out in institutions funded by the charities themselves to the provision of grants for work carried out in institutions principally funded by others. But the charities cannot do good work in isolation; charitably funded research is crucially dependent on the existence of well found work elsewhere. In this country this means reliance on, and access to, collaborators and facilities provided in whole or part through public funding (for example, within the universities and the NHS for basic and clinical research). Thus changes to these agencies, with which the charities collaborate, have an inevitable impact on the quality and quantity of research which the charitable sector is able to support.

The AMRC views with particular concern the financial constraints which have been placed upon the universities. The substantial reductions in UGC grants which have been imposed since 1980 have led to serious erosion of the science base and considerable weakening of the university limb of the dual support system. The reductions in UGC grants have been associated with a substantial loss of staff and this has reduced the research capacity of academic institutions. These reductions and other factors have resulted in a major fall in the numbers of those training for research since a research career is perceived by many to be increasingly unattractive. All these factors are contributing to a weakening of the science base, the strength of which is essential for the advances in fundamental knowledge upon which all applied research depends. A number of recently published reports (*A Strategy for the Science Base*—ABRC July 1987, *Costing Research and Projects in Universities: A New Approach*—CVCP July 1987 and the White Paper, *Civil Research and Development*—HMSO July 1987) seem to indicate the intention to further erode the dual support system. While obviously prepared to consider changes the charities are concerned at the effect that these policies may have on medical research in the United Kingdom.

The AMRC has also been very concerned to find NHS Hospitals attempting more and more to persuade charities to support some of the normal costs of patient care in addition to the costs arising from the conduct of research.

These concerns do not mean that the Association is resistant to change, but if change of a major scale is to be contemplated we believe that the contribution of the charitiable sector is so great that its views should be taken into consideration before decisions are made. This has rarely happened in the past. The creation of the new Association should make it easier to do so in the future.

EVIDENCE RELATING TO QUESTIONS POSED BY THE SUB-COMMITTEE

A(I) HOW ARE PRIORITIES FOR MEDICAL RESEARCH SET?

Advances of practical importance in the biomedical sciences have their roots in basic research. The provision of adequate resources for fundamental research is therefore an essential prerequisite for continuing progress towards better health care. The history of the biomedical sciences show that many of those lines of basic research which have ultimately led to major progress have not been recognised as such in advance. Basic research is a high risk enterprise. The problem is, and always has been, that there is no way of knowing in advance which fraction of the monies invested will lead to progress in prevention, diagnosis or therapy, at least in the short or medium-term. This is the nature of basic research and it cannot be otherwise.

The major priority must be to provide adequate support for basic research to increase the knowledge base upon which all other research depends. It is also essential that this support should be directed towards identifying, training and providing opportunities for those individuals with the talent and motivation to do original and innovative research. It is rarely realistic or practicable to set priorities for basic research since the process is science-led.

It is only with an adequate and developing knowledge base that a serious consideration of priorities for strategic and applied research is practical, for example:

(a) the major effort to identify the genes for a number of single gene disorders (for example, Duchene muscular dystrophy and cystic fibrosis) has only been possible because of advances in gene identification techniques;

(b) the research on AIDS which draw heavily on earlier fundamental work on the retroviruses;

and there are many other examples. The determination of priorities also depends upon additional factors which include health needs, the availability of trained personnel and sufficient resources.

The factors which determine funding policies and medical research priorities vary from sector to sector. As noted in the introduction a substantial proportion of the funds of the charitable organisations are donated for a specific purpose and are dedicated to research into a single disease or group of related disorders. A number of new research charities have been established in recent years to fund research in disciplines which have only recently attracted public interest and concern (for example, Back Pain Association, British Foundation for Age Research, British Lung Foundation and Alzheimer's Disease). These charities provide invaluable support for research in clearly defined areas, but the range of their activities is limited by the terms of ther constitutions.[1] The Foundations, which are generally less restricted, do provide some support for some of those areas which do not command public interests and which would otherwise be neglected by the charities. They have also taken major initiatives to promote research in certain areas.[1] The policies and priorities of the other major sectors which fund biomedical research (the MRC and pharmaceutical, medical equipment and diagnostics companies) are clearly determined by different factors. It is assumed that these groups will be submitting evidence which will address this question.

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[1] Some of the charities have adapted to changing circumstances for example, the National Fund for Research into Crippling Diseases which developed from the National Fund for Poliomyelitis Research.

The NHS is one of the largest industries in the country yet it has an insignificant research base which makes it dependent on others for new ideas concerning its future policies. Its lack of research base weakens its ability to act as a leader or an example in determining the country's priorities in medical research. This is particularly true for the underdeveloped subject of health services research.

A(II) HOW DO THESE PRIORITIES REFLECT THE PARTICULAR NEEDS OF THE NATIONAL HEALTH SERVICE AND THE HEALTH NEEDS OF THE NATION?

It is not possible to respond to this question in precise terms because of the difficulties involved in defining and ''quantifying'' needs. Much information which is directly relevant to the management of the National Health Service is, of course, collected and made available by the health departments and the health authorities (for example, data on notifiable diseases, hospital activity analysis, health authority statistics etc.). These data, however, only provide one part of the picture for two reasons:

(a) they only reflect those health needs which are evident to official agencies and which make demands upon public funds and it is well established that these figures underestimate the health needs of the chronic sick to a very substantial extent.

(b) they do not reflect social needs which have a direct impact on health.

More comprehensive data from community studies which reflect the health needs of the nation are available and should be more widely used.

It is probable, however, that despite these qualifications, the pattern of medical research in the United Kingdom does reflect perceived health needs to a significant extent—in so far as is practicable. The major constraints on the research community's ability to respond to health needs are one or more of the following: an inadequate knowledge base, insufficient numbers of trained researchers and inadequate resources. This can be clearly demonstrated by two contrasting examples. There has been a rapid research response to the AIDS epidemic. The provision of sufficient resources, the availability of suitably trained and experienced personnel and an adequate knowledge base in key disciplines (virology, immunology, epidemiology, pharmacology etc.) has enable a significant search for mechanisms to control the spread of the disease to be mounted. By contrast neuropsychiatric disorders attract relatively little research and support at present (particularly when one considers the prevalence and importance of these disorders). The major constraint is that the current state of conceptual thinking and basic knowledge is such that it is not possible, at present, to develop appropriate research strategies to solve many of the problems posed by this group of disorders.

B. IS THE PRESENT BALANCE BETWEEN DIFFERENT BRANCHES OF RESEARCH RIGHT?

This question raises two issues, both of which require debate.

(i) *The balance between basic and applied (including clinical) research*[2]

Basic and applied research are not of course distinct entities but convenient terms to describe the spectrum of research activities. It is not only impracticable and undesirable to separate these categories entirely since they merge imperceptibly one into the other but there are also powerful arguments for promoting co-operation and collaboration between those who engage in basic and clinical research. It is, of course, necessary for funding agencies to make a number of qualitative judgments so that both research of a more basic and that of a more applied nature will receive support. The essential contributions to medical progress which have been made by both basic and clinical scientists are well documented. There is no doubt that a balance has been achieved both within and between sectors on the basis of historical precedent and by informal consensus. The AMRC makes a substantial contribution to research in the basic medical sciences and research training but this is not proportionately so great as that of the MRC, which has undertaken a major responsibility for providing the long-term commitment necessary to create a suitable environment for such research (for example, the National Institute for Medical Research, the Laboratory of Molecular Biology and other MRC units) and has allocated substantial resources for research training. We believe the public perceive these long term commitments to be the responsibility of Government, and we would agree.

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[1] The Wellcome Trust has, for instance, supported programmes in a variety of fields; vision, mental health, skin diseases etc.

[2] Clinical research is here defined as that research which is directly concerned with or directly applicable to patient care.

The AMRC is particularly concerned for the future of clinical research in the United Kingdom—a concern which is shared by the MRC. Clinical research is not at present well placed to take advantage of those advances in basic science which can increasingly be applied to the prevention and treatment of disease. The problems faced by clinical research are well known. These include inadequate opportunities for training and career development, limited career posts, unavailability of "protected time" for research and a number of professional disincentives. These are described in greater detail in Section H (PP335–6).

These observations do not, of course, provide an objective answer to the question—is the balance right? This could probably only be answered by consensus after debate between all major parties concerned, and the nature of "the answer" would be heavily influenced by political, social and economical factors.

(ii) *The Balance between Research in different disciplines*

A balance has been arrived at with respect to research in the various biomedical disciplines (and in relation to different groups of disorders). This has been arrived at by precedent, informal consensus and other factors and a number of pertinent points have been made above (see A above). This balance is subject to constant readjustment as knowledge advances and new opportunities arise and are taken. The same uncertainties, however, which were noted in the preceding section, apply to any judgment as to the rightness or appropriateness of this balance.

C. ARE PRIORITIES IN MEDICAL RESEARCH ADAPTING TO CHANGING INCIDENCES OF DISEASE, CHANGING POPULATION STRUCTURES AND NEW TECHNOLOGY?

The response to this question is largely covered by the responses to A and B above. The biomedical research community has, in general, responded promptly and appropriately to all these imperatives and the only constraints have been one or more of the following: inadequate knowledge base in some fields, insufficient resources or a shortage of trained researchers. These points can be clearly illustrated by a number of examples:

(i) Changing incidence of disease. The obvious and topical example is AIDS. There has been a rapid mobilisation of resources in response to AIDS. This has only been possible because adequate funds have been made available for AIDS research and because there was an adequate cadre of researchers trained in appropriate disciplines. There was also a well-established body of knowledge of retroviruses.

Less dramatic but numerically much more important is the twentieth century epidemic of coronary heart disease. There are, of course, many risk factors for coronary disease, both inherited and environmental. Careful and detailed epidemiological work has been responsible for identifying many of these risk factors and evaluating their relative importance. These studies have laid the basis of health education programmes which are beginning to have an impact in some industralised countries. Recent research has also led to major advances in the treatment of coronary disease by new pharmaceutical agents, survey and angioplasty.

(ii) Changing population structures. There has been a substantial increase in the number of elderly people in all developed countries, including the United Kingdom. This group (formally defined as aged 65 and over) now comprises 10–15 per cent of the population and the proportion is increasing. Such a demographic change has had a clear impact on the pattern of disease and disability and has particularly highlighted the problems of neuropsychiatric, cardiovascular and locomotor disorders in the ageing population. Research has made significant progress in some but not all of these areas. A major determinant of progress (or the lack of progress) has been the apparent tractability or otherwise of some of the problems. For example, progress in neuropsychiatric disorders has been slow. The present level of knowledge and the state of conceptual thought are such that new ideas are in short supply and possible new avenues for exploration are not evident. Significant progress is unlikely to take place without some major advance(s) which may arise from basic research in the neurosciences or equally from studies in some apparently unrelated areas. Adequate funds are, of course, a necessary prerequisite for research, but problems cannot be solved merely by the application of money.

(iii) New technology. There are many examples of the rapid uptake of new technology in medical research. Clear examples are the application of new molecular genetic techiques to antenatal diagnosis, the use of recombinant DNA technology in the production of protein and polypeptide hormones, the increasing exploration of the possible uses of recombinant DNA technology and/or synthetic peptides as vaccines, mammography for the detection of breast cancer, nuclear magnetic resonance (NMR) for diagnostic purposes and many others.

D(i) HOW ARE PRIORITIES IN MEDICAL RESEARCH INFLUENCED BY THE INSTITUTIONS THROUGH WHICH RESEARCH IS FUNDED?

Priorities are very substantially influenced by the nature and terms of reference of the various funding agencies involved.

(a) The charities (see A(i)). It was noted above that many of the charities which collect money directly from the public are dedicated to research into a particular disease or group of related disorders, and others are conscious of further areas which should not be neglected and that basic research should be adequately supported. The charities also commit a rather smaller proportion of their funds to long-term projects and thus they are more flexible and often more ready to provide seed money for speculative projects. For example, in 1984–85 the AMRC member charities supported 2,700 research programmes and projects in the universities by comparison with 1,800 supported by the Medical Research Council.[1] The charities are receiving ever increasing numbers of grant applications.

(b) The pharmaceutical, medical equipment and diagnostics companies. These commercial undertakings largely limit themselves to applied research (and development) which is directed towards producing marketable and profitable products. They have made many major contributions to therapeutic research.

(c) Public Sources. The public funds (largely the MRC) are made available for basic and applied research in the biomedical sciences. Substantial sums are committed to establishing a suitable environment in which basic research can thrive and this inevitably means long-term investment (see B(i) above).

D(ii) How does the balance between public, commercial and charitable funding of research affect the setting of priorities by the different institutions involved?

The priorities allocated to different programmes by the major funding agencies may be substantially affected by changes in the balance between sectors. This has been seen particularly clearly in the charitable sectors over the last five years. The public, and the charities to which they give so generously, have played a vital part in the maintenance of medical research in Britain in recent years. Many charities have increased the range of their funding activities and have made long-term commitments to ensure that important research continues in their institutes and by providing long-term support for research groups in universities.[2]

A number of charities have drawn on their reserves—an exceptional response at a difficult time and clearly one that cannot be sustained for long. The charities cannot take on additional responsibility for maintaining the research base without at the same time reducing the amount of research they can support. Any reduction in quantity also leads to a reduction in the charities' ability to act as the flexible and adaptable source of money for new and innovative research. Furthermore, deploying funds, for example, to meet some of the costs of maintaining university departments or providing patient care could be counterproductive in that it might lead to a reduction in income for those charities (the majority) which collect directly from the public. As already stated, the public is unlikely to give so generously to bodies which undertake responsibilities generally perceived to be those of government.

E. Are the results of research adequately disseminated?

It is generally felt that the results of research are adequately disseminated to the scientific community. Scientific and medical research are international activities that depend on effective communications for their progress. Before new findings and theories are accepted as part of science or medicine, it is customary for them to be shared, discussed and criticised by other researchers, and placed permanently on record. There are many means by which dissemination occurs, but the most important of these are through medical scientific meetings and the medical literature. However, it is accepted that dissemination of research is not easily or well transmitted to the non-scientific research community, including practitioners and the general public. Some larger charities already run courses and seminars for practitioners.[3]

The charities are also making efforts to support greater public understanding of medical science, for example the Ciba Foundation's new Media Resource Service, the Nuffield Foundation supported project, the Bristol Exploratory, which gives "hands on" experience of scientific principles to children and others, and the involvement of the Wellcome Trust, cancer charities and other AMRC members' in the new Science Museum Gallery "The Cutting Edge of Medical Science". More information imparted to the general public may encourage even greater support for the medical research charities and may also make a positive contribution to health education.

F. How is unnecessary duplication of research avoided?

It is important to stress that not all duplication of research is unnecessary. An essential step in the validation of any scientific advance is verification.

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[1] *Medical Research Today: What the Charities are doing.* AMRC 1986.

[2] The Muscular Dystrophy Group has given long-term support to centres at Newcastle and at Royal Postgraduate Medical School, Hammersmith Hospital.

[3] See also Section G below.

The charities have taken substantial steps to avoid duplication. The major medical research charities in the United Kingdom have formally established the Association of Medical Research Charities (AMRC). This body is providing a forum for the chief executives of the charities and plays a key role in improving personal contacts between members. It provides opportunities for collaboration between members, (leading to a number of jointly funded ventures) and has thus minimised duplication of effort and maximised the use of resources.

There are also a number of checks within the service which do militate against unnecessarily repetitive studies. These include difficulties in raising funds for such studies and the natural and proper ambitions of researchers to conduct original rather than imitative research. Other checks occur due to cross representations on research and awards committees and with the existence of specialist national co-ordinating committees, such as the United Kingdom Co-ordinating Committee on Cancer Research on which the cancer research charities, the MRC and DHSS are represented. Such national co-ordinating committees could be extended to other specialties, and many of the charities would welcome participation. The charities would value links with other bodies involved in health and medical research since these would facilitate co-ordination of effort but it must be stressed that central direction of the charitable sector's work cannot be imposed given the rules governing the activities of each individual charity.

G. Is research reflected as it should be in actual improvements in patient care or health education? If not, why not?

There is a good and well-established communications network between those active in biomedical research. This generally results in a rapid uptake of such information within academic institutions (medical schools and university hospitals) where clinical care is of a very high standard.

This, however, is not always the case and the financial constraints which have been imposed on the NHS may greatly delay the transfer of proven technologies from the laboratory to the clinic. Two examples will illustrate this point. There have been major advances in the antenatal diagnosis of congenital abnormalities in recent years. Health authorities frequently have been unable to supply the additional staff to carry out these techniques or those who are required to provide adequate genetic counselling services. New imaging techniques (for example NMR) are able to make a very positive contribution to medical diagnosis. There are still very few centres which have the benefit of such equipment.

The application of research findings in patient care and health education is not always achieved as promptly as it might be outside academic institutions. This is essentially a problem of continuing medical education and a question which must be addressed by those responsible for post-graduate education in the medical professions.

As previously mentioned, a few charities choose to organise major programmes to advance the postgraduate medical education of doctors and other practitioners and are doing so. For example: (a) the British Diabetic Association has an extensive programme of education for medical, scientific, paramedical communities and other educators; (b) the Arthritis and Rheumatism Council produces regular diagnostic reports for all General Practitioners and is looking for further opportunities for the exchange of research information; (c) the British Heart Foundation has an extensive health education programme which includes publication of a *Factfile* covering recent research which is circulated to all General Practitioners; (d) the Cancer Research Campaign has a variety of health education programmes which include a campaign to improve early detection of malignant melanoma aimed at General Practitioners and an Education and Child Studies Research Group producing teaching aids for teachers, students and younger children to try to stop children becoming smokers and to help those who already are.

We would like to draw attention to two additional factors:

(a) There has been an increased emphasis nationally on the "exploitability", or "applicability" of research. Where the research applies to a wide range of diseases or a significant number of people it is generally quickly picked up by pharmaceutical companies. The dangers of concentrating too readily on applicability are obvious. There is a particular problem in the development of drugs for rare diseases and vaccines. In the case of vaccines, often those in greatest need are least able to pay for treatment and pharmaceutical companies may be discouraged by the low or non-existent profits from development of the research. The government might also consider some statutory limitation on litigation in this area in order to re-awaken the pharmaceutical companies' interest. Instances occur where significant progress has been made in research but which is not translated into improved treatment or care due to high unit costs or low profits. Some charities are able to provide the extra funding or financial incentives necessary to carry the results of such research through, but cannot normally be expected to carry such costs.

(b) Health Education. Sound well-established research has clearly pointed to the effect of smoking on health, most of which has been widely disseminated, but which has not been fully reflected in the improved health of the nation. There may be various reasons for this, and it would certainly be useful if more data were available on public preparations of such research and research into mechanisms effective in getting the information over to the public.

The primary purpose of the medical research charities is research and not health education, and while those with available resources may be willing to allocate limited funds for health education programmes, the charities would feel this is not their function but primarily the responsibility of government through the health and education services.

H. WHAT CHANGES IN PRIORITIES IN THE TRAINING OF MEDICAL RESEARCHERS ARE NEEDED?

The mechanisms which have been established in the United Kingdom for training medical researchers have developed haphazardly and the importance and impact of the various schemes have never been fully evaluated. This unstructured system has, in general, served the community well, but it is probably no longer appropriate that available training schemes should continue without systematic evaluation now that the system is contracting. The evaluation of these processes is absolutely essential to assess the effectiveness of the various training programmes and to establish their relative value and roles in providing a cadre of trained research workers for the future.

The major issue is the absence of an adequate and rewarding career structure for medical and non-medical graduates engaged in medical research. Matters of particular concern include:

for non-medical graduates:

(i) the relative shortage of training facilities and opportunities for non-medical graduates who play an important role in basic and clinical research. The MRC has cut back on its studentships programme for research PhD's, and although charities are able to make a limited contribution in this area (The Wellcome Trust recently announced a £3m programme), they cannot meet the shortfall. They would feel that the basic training of researchers (to PhD) is the responsibility of government and that the level of support is inadequate at present.

(ii) the low morale that exists in the system. Many of those involved in the medical research field have reported the atmosphere of despondency and low morale that exists in the system. Data now exists highlighting the very severe problems of recruitment of medical research workers. For example, one survey conducted by the Association of Researchers in Medicine and Science based on 200 posts advertised between December 1985 and March 1986 showed that 30 per cent of the posts advertised were not filled, of which 10 per cent were re-advertisements. One third of researchers leaving during the course of a project (36 per cent of posts were advertised for this reason) were going abroad or leaving research altogether.[1] There is a clear feeling that the best students are no longer attracted to scientific research and take up better rewarded occupations, often in the non-specific commercial sector.

for medical graduates:

(iii) the threat to the intercalated BSc course for medical undergraduates is a matter for particular concern since a recent study has clearly shown its value.[2]

(iv) effective clinical research requires the collaboration of clinical and non-clinical scientists. Both groups have been affected by the financial constraints in the universities and the clinicians doubly penalised by the parallel constraints in the NHS.

(v) inadequate opportunities for research training and career development in clinical science. This has been highlighted recently by adjustments in the numbers of doctors in training grades which have been made by the Joint Planning Advisory Committee on which the medical research charities were not originally represented. The AMRC received a quota of 100 (+/−5) senior registrars with honorary contracts to cover those individuals funded by members. This represented a very real shortfall in numbers of clinical senior registrar level researchers actually being funded at the time and although some of the shortfall will be covered by a temporary arrangement we would estimate that the quota is at least 30 per cent less than the charities need in order to offer real chances of career advancement to the medically qualified researchers they are funding. There is already considerable pressure on the use of the AMRC quota. The pressure will increase as more charities join the Association and as charities' income increases. The process is now to be applied to registrar grade posts.

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[1] *First Report from The Education, Science and Arts Committee 1984–5* HMSO 46–II. (Association of Researchers in Medicine and Science Memorandum).

[2] A recent article from the Ciba Foundation. 'The correlates of research success', *British Medical Journal*, 1987 Vol 295 pp 241–246.

(vi) limited career posts for trained clinical researchers.

(vii) the unavailability of "protected time" for clinical researchers. Financial constraints and the consequent reductions in staff numbers have increased the clinical service and administrative burdens on clinical academic staff and thus research time has been significantly eroded.

(viii) a variety of career and financial disincentives. The demanding clinical training schedules imposed by the Royal Colleges, flexible in theory but all too often rigid in practice, and financial constraints are often an important disincentive to young doctors who might otherwise follow a career in clinical research.

It is essential that the present system is evaluated critically. It clearly contains much that is good. A more flexible and permissive system is greatly needed. It could do irreparable harm to the biomedical research enterprise in the United Kingdom if training programmes were subject to random or unselective "across the board" cuts before we know the precise significance and importance of individual programmes and have had the opportunity to consider how these will meet future needs. There is an urgent need to develop a more effective and coherent policy for the training and career development of research workers in the biomedical sciences and the charities can and are very willing to assist in devising appropriate strategies.

I. SHOULD ANY SPECIFIC CHANGES IN ORGANISATION AND FUNDING BE MADE IN ORDER TO INCREASE THE QUALITY, QUANTITY OR APPLICATION OF RESEARCH?

We have two proposals to make:

(i) the establishment of a national forum in which all major parties concerned in biomedical research would be represented. A similar proposal was made in the ABRC Report on private sector funding of scientific research.[1]

The principal purpose of the forum would be to discuss matters of policy as they relate to the organisation of medical research with the object of maintaining an adequate biomedical science base. It would work to determine a framework for future activities, taking into account scientific feasibility, and to provide an indication of national policies and areas of government responsibility so that other agencies, including the charities, are clear on the context in which their resources might be employed. It must be stressed that central direction of the charitable sector's work cannot be imposed given the independent nature of each individual charity.

The national forum would also provide a framework for more specialised groups to discuss issues related to specific areas of scientific research (UKCCCR is a good example of collaboration between publicly and privately funded groups). A more broadly based forum would be invaluable in the future and would facilitate sensible collaboration which would be to the benefit of all. The charities would value links with other bodies involved in health and medical research.

(ii) There is an urgent need to review the career structure for both medical and non-medical graduates. The case for scientific evaluation of research training programmes, the research process and its outcomes and applications is compelling. Policies and structures need to be based on facts if limited resources are to be used to best effect. A number of organisations are now addressing these issues. Their work needs to be co-ordinated, supported and encouraged.

Preliminary Letter from Association of Medical Research Charities

Thank you for your letter (to Colonel Brearley-Smith) regarding the important enquiry into medical research being undertaken by your Committee. Your letter has been passed to me for reply now that I have taken up my position as Executive Officer of the Association of Medical Research Charities.

The Association has, until recently, been an informal organisation of chief executives from charities involved in medical research. The AMRC has now been reconstituted and the charities as organisations will be members with representatives attending meetings. The first Annual General Meeting, at which our Executive Council will be elected, will be at the end of May.

It would be inappropriate therefore, for me to respond to your letter on behalf of the AMRC as a whole, but there are some points that I feel I can make in general terms.

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[1] ABRC Report of the Working Party on the private sector funding of scientific research, (HMSO) May 1986, para 255 and Bx.

The medical research charities fall broadly into two groups: those that have funds of their own and those that collect funds from the public (by far the larger group). A substantial proportion of the funds of this second group are donated for a specific purpose and are dedicated to research into a single disease or a group of related diseases. Since the majority of the charities raise their funds directly from the public the amounts raised could be said to reflect the public's perception of the relative importance of research into these diseases rather than more specifically to respond to the needs of the health sevice, although of course these may coincide.

There are obvious limitations to these resources and only those charities with funds of their own can in any way play a complementary role in contributing to basic medical science or areas which do not command as great a public interest and might otherwise be neglected.

Charities depend on a variety of sources for their income all of which are subject to fluctuations. Thus, the charities are seen more as a source of funds for shorter term grants although some charities have been able to endow Chairs or provide funds for fairly long term support. Other charities' primary support is for their own research institutes.

The medical research charities have, as I have already said, joined to form the Association of Medical Research Charities, and we will continue to provide a forum for discussion, for improving personal contacts and to provide opportunities for collaborative funding and dissemination of information. The Association is also actively seeking ways to improve and extend formal links with other agencies in medical research.

The AMRC as an organisation, would be able to respond to your letter more fully after the formalities of reconstitution are completed, and we would greatly welcome an opportunity to do so. If their Lordships could agree to allow us some time to prepare a detailed response to their questions, I would be pleased to make the necessary arrangements.

I very much look forward to hearing from you.

Yours sincerely,

Diana Garnham
Executive Officer

April 1987

Examination of witnesses

Major-General Alastair Dennis, Chairman, Dr David Evered, Vice-Chairman, Colonel Andrew Brearley-Smith, Dr M Crumpton, Ms Diana Garnham, Executive Officer, and Professor Simon Howell, Science Committee, Association of Medical Research Charities; Dr Joan Austoker, Science Policy Research Unit, Cancer Research Campaign, called in and examined.

Chairman

1706. I think we can start this afternoon's session.

(Major-General Dennis) To begin with may I say it may help if you can do your best to put out of your mind this morning's session with the Imperial Cancer Research Fund. Although the ICRF is one of the three largest medical research charities, it is untypical of the usual charity as perceived by the public, and I suppose that perception is of a collecting tin, grant-giving organisation. Because of its untypicality the ICRF has views on some issues which the members of the Association would not necessarily share, and I would ask you to bear that in mind as this afternoon's session with the Association itself unfolds. When we submitted our evidence to you we attached to it an appendix of our membership and a quick glance down that list will show you the Association is made up of a very wide range of charities and the majority of them are the collecting tin, grant-giving charities. There are three giants and all three of the giants are totally different from one another. There is the Wellcome Trust, which I suppose is perhaps more akin to an American foundation than most British charities, although its similarity is not actually as close as all that. There is the Cancer Research Campaign, which by my earlier definition is probably the nearest to being typical in that it collects money from the public and distributes most of its money in grants. Then there is the Imperial Cancer Research Fund. Between them those three fund about three-quarters of the Association's medical research. Those three are associated with a very wide range of smaller charities, and that indicates that despite the differences between the charities there is sufficient commonality of purpose amongst us to make us believe that a common, umbrella association is in our general collective interest. As we said in our evidence, the Association was reconstructed fairly recently. The catalyst for that reconstruction was the realisation that much that was being proposed

[Chairman *Contd*]

would practically affect the ability of medical research charities, whatever their type, to fulfil their functions, and most of the charities were not in fact being consulted before decisions were being made. Let me give you an example: we spoke this morning of this beast called JPAC. When that Committee was considering senior registrars they decided that the MRC deserved a quota of about 60 senior registrars but no allowance whatsoever was made for the medical research charities.

1707. Was that just sheer omission or was it deliberate?

(Major-General Dennis) I think it illustrates my point that we were not consulted and therefore our needs were not taken into account. Then we invited ourselves to the ball and we were allocated 100 senior registrar posts, the MRC remained at 60. So, if you like, the need of the medical research charities in this field was significantly greater than the MRC but nobody had thought to include the charities in their thinking at that stage. Chairman: That seems extraordinary.

Lord Hunter of Newington

1708. That assumes, does it, that these people will be competing for ordinary consultant posts, is that correct?

(Major-General Dennis) That is really quite a difficult question for us to answer because we have not done the homework on how many consultant posts the charities also support. We believe we probably support rather more than our fair share of consultant posts, if you equate them directly with the training grades beneath them.

Lord Kearton

1709. In your example you mention "they", would you define "they"?

(Major-General Dennis) In this instance the people who made up the JPAC, particularly the Department of Health, of course.

Lord Sherfield

1710. They were all civil servants, were they?

(Ms Garnham) They are academic members of the Committee but not representing medical research charities.

Lord Kearton

1711. With the secretariat provided by whom?

(Major-General Dennis) The DHSS.

1712. So fundamentally it is the DHSS really?

(Major-General Dennis) Yes.

Lord Sherfield

1713. The DHSS provides the secretariat, is that right?

(Major-General Dennis) Yes. I would not like to knock the DHSS too much here. I use that as an example of the sort of area where medical research charities' needs were not taken into consideration when decisions were taken.

Chairman

1714. Are the BMA involved in that organisation?

(Major-General Dennis) Yes. Other examples are the question of the charging of university overheads, the proposal that we might adopt the three tier university system and the creation of centres of excellence. They are three examples of ideas which are being proposed at this moment which will affect charities.

Lord Kearton

1715. With no prior consultation?

(Major-General Dennis) None with the medical research charities collectively.

Lord Adrian

1716. That might also apply to the universities as well in the proposals you have mentioned!

(Major-General Dennis) In most of those instances I have no doubt at all that the Medical Research Council were consulted yet their contribution to medical research is not significantly greater than the Association's, and indeed ours is growing and the MRC is in decline and it will only be a year or two before in financial terms the members of the Association are contributing more to medical research than the Medical Research Council itself. We believe that our contribution, particularly financial, is so significant that actually our voice should be heard as a matter of right, and that is the reason that we propose in our evidence to you the creation of a national forum, and we will probably talk about that in more detail in a moment, in which the Association would sit as a full member. The fact that we advocate a national forum must not be construed as implying that the medical research charities can be given orders from Government or indeed anywhere else. Apart from anything else, we are not legally permitted to act outside the terms of our charters and, as I am sure many of you are aware (and I know Lord Kearton is a trustee of the British Heart Foundation) each trustee is personally liable for ensuring his charity's funds are legally applied, and if he fails to ensure that, they can call on his own pocket to make good any misapplication. The fact that we cannot be directed in what we do does not in our view stop us from thrashing out together with Government and other agencies the limits within which each will work, or, as we phrase it in our formal evidence, the framework for future activities, so that the charities can be clear of the context in which their resources are going to have to be applied. Clearly there will be issues which are below the national policy level in which a national forum would not necessarily be approriate but in which it would be sensible for specific issues to be considered in restricted and less high-powered fora, and we assume the Association would be involved in these where it is appropriate.

[Lord Adrian *Contd*]

Let me emphasise our members are not resistent to change, indeed we recognise change is probably inevitable and certainly healthy, but we are worried when change is introduced without full consideration of its implications and we do not believe the implications to the medical research charities collectively have been properly considered up until now. Our new Association at least provides a single point of contact for those who wish to learn our views and, if you like, removes the excuse I have heard used before that there are so many charities, we could not possibly consult with them all; at least there is now one point at which to come to attempt the consultation process. I think our particular concerns at this time are really ones which are shared by many, principally the apparently relentless erosion of the research base. How long will it be before the base becomes inadequate to our needs? The issue seems to be generating its own momentum, the attractiveness of medical research as a career has in our view declined and is continuing to do so, yet proposals such as three tier universities will not do anything to encourage researchers, and if proposals such as charging for overheads lead to a shift of research away from universities, as seems quite probable, this situation is further exacerbated and a research career becomes even less attractive. A shift away from universities, and where medical research is concerned that is a shift away from medical schools with their close relationship with the NHS. Given the NHS's really rather inadequate research programme, we view this shift and the possibility of reduced links with the NHS with some apprehension. After all our object is to develop solutions to problems of disease and translate them into effective preventions and treatments. It is issues of this sort which we find very worrying, but they bear directly on our ability to perform our functions, and we believe we have a right to be actively involved in finding solutions to the problems not simply, as in the past, interested by standers. With that rather general introduction, I would like to hand over to Dr Evered who is the deputy chairman of the Association and ask him to address one or two specific points in our evidence.

Chairman

1717. Thank you very much.

(Dr Evered) The Association, in its newly reconstituted form earlier this year, as one of the first acts of the new executive council, created a science committee, of which I was appointed chairman. That science committee broadly comprised scientists representing both basic science and clinical research and in general they are all associated with charities. The first task which this science committee had to address was to provide a response for your Lordship's Committee, and you will have received copies of that. I would like to highlight three substantial points from our evidence this afternoon which amplify some of the issues which General Dennis has just raised. The first point I would like to highlight is this, and that is the research which is funded by the charities is carried out in a number of ways. As General Dennis has said, scarcely any charity can be considered typical, all have somewhat different origins and have grown up and developed in a variety of ways. The research which is funded is either carried out in general in institutions, such as this one, or by the provision of grants for work which is carried out in the universities or in National Health Service hospitals, that is organisations which are broadly funded by Government. The point which we would like to stress is that the charities like the Medical Research Council and any other funding agency cannot do good work in isolation, and this means reliance on and access to collaborators and facilities within those other institutions. This is very clearly illustrated by the senior registrar issue which General Dennis has just referred to. We are therefore very much concerned about the financial constraints which have been placed upon the universities since 1980-81 which have led to a very serious erosion of the science base and considable weakening of the university limb of the dual support system. As we have indicated in our evidence the charities are important contributors to medical research in this country, they provide more support for research within universities than the Medical Research Council, and indeed the figure from the charities during 1986 was in excess of £70 million within the universities. We are at the same time equally concerned about the constraints on the National Health Service since these have placed some very considerable obstacles in the way of the conduct of clinical research, and they have in some instances delayed the transfer of the products of research from the laboratory to the clinic, and we have provided some specific examples within the evidence. I should say these problems are compounded by the fact they have had a very considerable influence on the interface between the medical schools on the university side and the university hospitals which are broadly funded by the Departments of Health. This is a very important and essential interface for transferring the results of research into improvements in patient care or prevention. It is an interface which some ten to fifteen years ago worked on the whole rather smoothly, when the policy of "mutual uncosted assistance" was in place, but with the constraints imposed on both sides that that system has to a significant extent broken down and thus the products of research cannot be used as fully as they might be. The changes on both sides, university and Health Service, have had an inevitable impact on the quality and quantity of research which the charitable sector is able to support. The second point which I would like to make is that there is considerable discussion about priorities in medical research at the present time. We would I think in the first place wish our views to be heard very clearly along with others in saying that the first priority has to be to support basic research because

[Chairman *Contd*]

it is only with a secure knowledge base that all other research can progress. The second priority which we would like to highlight is a priority for identifying and training and supporting the most able and talented and highly motivated young people in the system, so they are attracted to a career in research. It is only with a secure knowledge base and an adequate number of properly trained researchers that one can start to think seriously about priorities in strategic and applied (clinical) research and the needs of biomedicine. The third point which I would like to highlight from the evidence is that we have paid particular attention to issues relating to people who work within the research system. It scarcely needs to be said that trained researchers are the most valuable resource which we have, and yet we lack adequate and rewarding career structures for both medical and non-medical graduates in research, and it is increasingly perceived to be unattractive as a career. Just to highlight some of the issues, the non-medical graduates play a crucial and essential role in medical research and yet at this time training opportunities are being cut back and morale in the system is so low that something like one-third of advertised post-doctoral posts remain unfilled and one-third of those who are on short-term contracts leave before the term of that contract is up, and they are either leaving research entirely and permanently or they are going overseas. Similar problems beset the medical graduate. There are again inadequate opportunities for research training and career development in clinical science. The parallel cuts in both universities and the Health Service, which I outlined earlier, have doubly penalised the clinical researchers and these problems have been compounded in clinical research by a number of other factors, such as rigid training schedules and new manpower restrictions, an increasing clinical and administrative burden, and perhaps most seriously of all, a progressive erosion of the time available for doing research because the trained research worker really does need protected time in which he or she can pursue research activities. We are in no doubt that a more flexible and permissive system is greatly needed, and that irreparable harm will be done to the biomedical system in this country if training programmes are subject to either further random or on selective cuts. It does seem there is a case here for encouraging all those with a proper and legitimate interest in research training to discuss how the present system should be adapted and reconstructed to make a more satisfactory career system for those in biomedical research. There are many training programmes but they are developing on an *ad hoc* basis and we do not have a coherent framework for researchers to develop their careers. Perhaps I could finish by re-emphasising one or two of the points which General Dennis has made. We do see our role as being very much more substantial than merely providing a voice through which the concerns and anxieties of the members of this Association can be expressed. We are very aware that the view has been widely expressed that the provision of additional resources will allow the academic community to recreate the research environment which existed in the past. We are very aware these views are unrealistic and our attitude is very much more positive than this. The Association has played an important role in the past in providing a framework in which its members can get together and through the contacts so developed many collaborations have developed and this has led within the charitable sector to minimisation of unnecessary duplication of effort and has also led to maximisation of the use of resources. I would finish by echoing Major-General Dennis' remark that we believe the time has come to establish a national forum in which the major parties involved in biomedical research would be represented. The principal purpose of this forum would be to discuss matters of policy relating to organisation, so that together we may think constructively and together of how to maintain and develop a sound biomedical research base and provide a proper framework for future activities.

1718. Thank you very much for those opening remarks, and thank you also for your very informative paper, which has been very useful to us. You are a relatively new organisation. Are you now accepted by Government as the spokesman in a significant area of medical research, and are you pressing these points with Government now on behalf of the charities?

(Major-General Dennis) I think the answer to that must be, not yet. We are going through a series of bilateral meetings with various organisations. We have not yet reached the end of that series of meetings; I hope when we have done the role that we can play will be more clearly understood by, for example, the ABRC, the MRC, the Department, CBCP and organisations of this sort. Bilateral discussions should help us to educate people, if I might put it that way, as to what we can do and what we would wish to do, but they will be no substitute for joint multilateral discussions.

1719. I was thinking in the back of my mind as to how far your representations will have progressed by the time our report comes out.

(Major-General Dennis) I would say that we are about half way through that series of meetings now. We should be finished by the end of January.

1720. So the Government will be well aware of your views by that time?

(Major-General Dennis) I hope so.

Baroness Lockwood

1721. I wonder if we could just ask how you see this national forum being established, under whose auspices? Recognising the various bodies which you want drawn into it, where would you expect the initiative to come from and who would service it and be responsible for it?

(Dr Evered) I do not think at the moment we

[Baroness Lockwood *Contd*]

have an absolute, categorical answer to that question. We believe it is important that there should be a forum. We believe it should be established on the basis of equal partnership between those bodies which have a proper interest in the organisation and funding of biomedical research. I would imagine that ultimately it would have to be funded in part by all those equal partners and that the secretariat and the servicing of it would in the first place be provided within the auspices of one of the collaborating bodies. However, who would take the initiative is perhaps a more difficult question. We have a feeling that maybe in the end the charities might have to take the initiative.

1722. You do not see a DHSS role?

(Dr Evered) I do not see it as being primarily within the DHSS area, although clearly they are a body which would have a proper interest and of course they do have a Chief Scientist.

Lord Adrian

1723. Have you gone as far as saying how far the DHSS would be itself represented on the national forum?

(Major-General Dennis) There is the model, if you like, of the UK Cancer Co-ordinating Committee, which we think is a very good model. If you remember we were talking about the funding being principally from the two major cancer charities and the MRC's contribution, if that is the right word, being the secretariat and the running of it. A model of this sort is the sort of thing we have in mind. Exactly who takes what part in that model is yet to be established.

1724. Would you see the National Health Service as opposed to the centre having a role to play? The regional hospital boards and that sort of thing? How would that operate?

(Major-General Dennis) I think in the first instance we need to solve the problem of getting national policies right, so I do not know what role the regions would play.

1725. It is a question of the independence of regions?

(Dr Crumpton) If we take the UKCCCR, regional authorities would not be involved at the level of the DHSS.

(Major-General Dennis) I did say we were thinking of a variety of levels of problems and it might well be appropriate to take particular issues one was discussing at regional level.

Lord Hunter of Newington

1726. The meetings between the cancer bodies and the MRC and the Department have been a success, but that involved five or six bodies. How many members would there be in this new forum?

(Major-General Dennis) The UKCCCR includes ten bodies.

Lord Hunter of Newington: How many would be involved in this much wider thing? It would be 50, would it not?

Baroness Lockwood

1727. Perhaps you would enumerate again the bodies?

(Dr Evered) Let us take as our starting point the organisation where we are having bilateral discussions at present. They are the DHSS, the DES, the MRC, CVCP, Advisory Board for Research Councils, the Association of British Pharmaceutical Industries; it is about 6 or 8 bodies with whom we are having discussions at the moment, and these are the major bodies who have a direct involvement in the organisation or funding of biomedical research in the United Kingdom.

Chairman

1728. There is a management board of the National Health Service, is there a need for another forum on top of that? I must tell you in other enquiries which we have done in this field of science, a common feature which tends to come up is the need for a co-ordinating committee or forum, or some such thing, mainly arising out of the difficulty, I suppose, of the left hand knowing what the right hand is doing within a Government organisation. Those proposals do not get a very warm reception from Government, I do not think. The word "quango" comes up. "What? Another quango? We want to get rid of them, not create them." I am just putting forward a reaction which might arise out of such a proposal.

(Dr Crumpton) I will not try to answer that, but at least let me use in this instance two hats I wear, in the sense of being a member of the Medical Research Council and a member of the scientific committee of the AMRC. I think you have to appreciate that there is in fact a lack of interchange between those two organisations. That is a major disadvantage from the point of view of medical research.

1729. Between which organisations?

(Dr Crumpton) Between the MRC and the Association of Medical Research Charities. Somehow for the benefit of medical research within this country, we have to devise some means of overcoming that gap, that lack of interchange. Now if your perception of it is that it should not be a forum or a quango, that still does not obviate the need for some form of interaction.

Lord Kearton

1730. You are obviously speaking for the Association of Medical Research Charities when you say "the need for a forum".

(Dr Crumpton) And also as a member of the MRC.

1731. They feel just as strongly there should be interaction?

(Dr Crumpton) I have been discussing it with the

[Lord Kearton *Contd*]

Chairman, Lord Jellicoe, and it is accepted within the MRC there has to be more interaction.

1732. If the medical research charities and the MRC want it, why do they not just get together?

(Major-General Dennis) There are other people who are involved too. There is the Department, the National Health Service, there are the other groups which exist, and our misgiving stems from the fact that heretofore at least nobody has felt it incumbent upon them to take the needs of the medical research charities into consideration before deciding things which are going to have a significant impact on the way we can manage our business, yet in funding terms we are of a similar scale to the Medical Research Council. The Medical Research Council would be consulted and drawn in on many of the discussions which would lead to those sorts of decisions, why not the Association?

Chairman

1733. Would you feel, as some have put in evidence to us, that there is a lack of appreciation within the National Health Service of what research in fact can do for the National Health Service?

(Major-General Dennis) I think it was Wellcome in giving their evidence to you some time ago who said it was amazing that an organisation which has a £20 billion budget has a £20 million research programme. It is extraordinary, is it not, how inadequate the National Health Service research is. Stemming from that, it is probably true that they are not sufficiently aware of the benefits which can stem from that.

1734. That is something which needs changing, whether a forum along the lines you are suggesting can do it I do not know. That is something to which we will be giving consideration in view of your submissions. One might also ask, why is the management board of the National Health Service itself not more active in the research field? Why does it not have a research sub-committee or something like that which might take the role you want?

(Dr Evered) What I was going to say about the National Health Service is that of course it is primarily a service organisation, a service industry. It is of course proper that, like all such major enterprises, it should conduct its own research, its own operational research into the effectiveness of its management and delivery of health care to the population. With respect, however, it is only involved in research in a marginal sense, in that the Health Service is not the body to undertake original and basic biomedical research. That is carried out within the universities, within independent research institutions and to a certain extent by industry as well. Although clearly the DHSS or the Chief Scientist Office of the DHSS should be involved in discussions, and that is one of the other bodies other than the MRC or the Association which should be involved in such discussions, they do not have a central role. I think it would be unrealistic to believe that the Department of Health could very rapidly acquire the skills and expertise which were necessary to take up a leadership role with respect to biomedical research.

Baroness Lockwood

1735. We are talking about two different things here, are we not? What you are suggesting is the co-ordination of biomedical research through this co-ordinating body and establishing policy for priorities in biomedical research, and then on the other hand (and I think this is in your evidence) you are suggesting that the National Health Service itself should spend more on research than it is currently doing but you are thinking of that as being quite distinct from the other fora, you are thinking of that as being the operational research expenditure within the ambit of the DHSS itself?

(Dr Evered) I think properly within the ambit of the DHSS. I entirely agree with the analysis; those were precisely the points we were trying to transmit. Like any other major organisation, it is proper it should carry out operational research so that it continually monitors its level of performance and is in a position to take on board changes in practice and prevention which will be of benefit to the community.

1736. Would you see it doing it actually in-house or maybe setting up a somewhat similar body to the MRC but with responsibility for operational research?

(Dr Evered) I am a little hesitant to start talking about Health Service research with Walter Holland sitting across the table from me!

Chairman

1737. Don't feel inhibited!

(Dr Evered) There are a number of problems related to Health Service research in the United Kingdom. Responsibility as you know at present is split between the Medical Research Council and the DHSS. There are very real concerns that we do not have an adequate mechanism for training the next generation, if I might put it that way, of Health Service researchers, to follow in Professor Holland's and others' footsteps. I think a great deal of thinking about the structure and the way in which we should develop Health Service research is required. I suspect it cannot all be done in-house by the DHSS though.

1738. One of the proposals which is being put to us equally forcefully as you have put forward your suggestion of a forum, is that there should be Heath Service authorities within the DHSS which should have money and would be responsible for promoting a Health Service programme either from the centre or through the regions. Would you have any views on that?

(Dr Evered) I would see that as being the second of the two points which Lady Lockwood picked out

[Chairman *Contd*]

from our evidence, and this relates rather specifically to the Health Service research issue and an area in which the charities were only involved to a limited extent because most of them have charters.

1739. So your forum would discuss what?
(Dr Evered) Not only basic research but basic biomedical and clinical research.

Lord Hunter of Newington

1740. Is the object to ensure that the charities are not abused or made use of by Government financially?
(Major-General Dennis) I think that is a slightly unkind way of putting it. I think the object would be to ensure that the money which is donated by the public through the charitable sector is used to good effect. If you do not take into account the sort of things which the charities' charters ask them to do in making your plans, and if for example you allow no senior registrars to the charities, then the charities cannot do their job effectively. Heretofore we have not been drawn in to the discussion of the environment in which we have to operate. What we want is to be drawn into that discussion so that our point of view and our needs are taken into consideration in the decision-taking process rather than simply presented to us and then we have to adapt ourselves to meet a situation.

Chairman

1741. The money you have been collecting from the public through the charities has been growing and your proportion of the total spend has also been growing. Is that a natural momentum of its own, or is it a public realisation that Government is not spending enough and therefore they are prepared to help to make up for it? Would the corollary hold that if the Government decided in its wisdom it should spend more, that in fact the monies flowing to the research charities would then get less?
(Colonel Brearley-Smith) I think that is quite wrong. Could I make one or two remarks which that prompts? I represent the smaller charities which were spoken of earlier, those who are dependent on tin-rattling among the public, so if you like the views I express are a worm's eye view, but it is some worm, and I suggest that any Government in power which treads on this particular worm will be doing so very ill-advisedly, not least because the influence or power attaching to the charitable sector is not simply to be measured in terms of money; the majority of the medical research charities actually represent a great many people. Their being springs from a perception of need evident in particular sections of the public. So, if you like, if you add all the constituents which the charities represent, you end up with a very, very strong measure of public opinion and perception of need in terms of supporting medical research.

1742. That would be an emotional reaction rather than a studied reaction, I presume, would it?
(Colonel Brearley-Smith) Of course it may indeed be an emotional reaction, but it is one which is, if you like, channelled by the existence of particular charities to a useful end. I would dispute, certainly from my experience of the last ten to eleven years, that there is any connection between the public's giving and what Government are actually doing. I would suggest quite the reverse could arise in the future, and that is if the public perceived this shift which is evident on the part of the Government, the shift from the public to the voluntary sector in support of research, if this were to gain further momentum or be recognised by the public, I think this would effectively turn the tap off; far from our funds increasing, they would I suggest in all probability decrease.

1743. Why would that be? If you say their giving stems from a gut reaction of need, the need would then be greater not less?
(Colonel Brearley-Smith) I would have to go back a little in time. I actually disagree with the implication which has been discussed today that the erosion of the research base is something which is new. As I say, I have been involved in supporting medical research for some ten-plus years and it is my believe that the erosion of the research base began long ago, ten or more years ago, and that it has simply gathered momentum and is in fact reaching crisis proportions now. I can demonstrate this by pointing to the actual consequences of this erosion as I perceive it within my own charity. Over the last few years the average cost of a short-term research project has increased five-fold, from some £10-15,000 to about £60,000. The average cost of one short-term project going through my offices at the moment is £60,000 and five years ago it was £15,000. That cannot be explained away on the basis of relating it to the prevailing level of inflation; something else has been at work. The something else is the consequences of this erosion of the research base. So the applications I receive now have an increasing component for equipment, equipment hitherto provided in the well-found laboratory. I am asked for a centrifuge or a plain ordinary microscope, whereas ten years ago there was no question of being asked to provide basic items of research equipment. That is a very large component of the increase. We are invited to provide for consumables—not surprisingly of course there has always been a component for consumables, but only a few days ago I received an application and itemised on the list of consumables were paperclips, pens, Sellotape. What state has the research department in a university reached when it has to make out an itemised list including things like that in applying for a research grant from a charity? I suggest there is something perhaps faintly amusing about it, but to me it is sinister. What on earth are we doing, requiring researchers to waste their time drawing up lists like that? I find it

[Chairman *Contd*]

absolutely incredible. There is another area where this dramatic increase in costs has arisen: because of the cut backs in the established staffs, both academic and clinical, we find there is an increasing call in these research applications to provide for technicians, the people who look after the animal houses. Of course we all know that the next step, the next burden which is appearing to be heading our way, is to take on this dreadful percentage overhead. For what? For the cleaners, for the electricity. You can, as it were, shift the burden on the charities just so far. I cannot and I simply do not see a way of concealing this shift any more so far as the giving public are concerned; the supporters of charities like mine. They will tumble this fact and tumble it very soon, if this erosion is not reversed.

1744. Will the tendency be for the charities to run their own institutes under these circumstances? Would it be cheaper for them to do that?
(Colonel Brearley-Smith) I have heard this bandied around in my council. We will say, "We can get our research done more cheaply overseas."

1745. It is overseas they would go?
(Colonel Brearley-Smith) Why not?
(Major-General Dennis) I think the charities will inevitably be looking for the best value for money.

1746. The public reaction might be a bit odd to that one.
(Dr Crumpton) The Medical Research Council, like the Cancer Research Campaign, has traditionally been a grant-giving organisation. It has been associated with its own institutions, but in association with the Medical Research Council, so it had the Beatson and Paterson Research Institutes on Cancer Research, and those were traditionally shared activities between themselves and the Medical Research Council. As a result of in part the erosion of funds to the Medical Research Council, they have examined their relationship with the Cancer Research Campaign, so today the Beatson and Paterson Institutes are totally funded by the Cancer Research Campaign; the MRC has withdrawn its funding by agreement and so far as the Cancer Research Campaign in London is concerned, there is now an identified annual decrease of MRC contribution to those institutes, so within ten years they will also be totally funded by the Cancer Research Campaign. That is in fact an example of what is happening to the charities; they are in fact assuming complete responsibility for funding their own activities.

Lord Kearton

1747. I would like to take Dr Evered back to the implication he made in his opening address that universities were being a bit unreal in thinking that they could ever get back to a basis of fairly open-ended finance. Was that the implication?
(Dr Evered) Absolutely.

1748. At the same time, in your paper you made great play of the fact that the well-found laboratory is disappearing, that it is leading to dramatic cut-backs, that we may have the complete erosion of our research base in five years' time. What attitude would you advise the universities to take?
(Dr Evered) Clearly the major issue relates to that component of the UGC grant which is nominally provided to support research itself. As Sir David Phillips has pointed out, it is the single largest sum which the Government contributes to civil science in the United Kingdom; it is more than the entire science vote. It is that sum of money which causes concern and in the ABRC report there is a proposal that the responsibility for some overhead costs should be removed from the universities and placed upon the research councils. We fully sympathise with the thinking behind that, and we would be very much behind any process which led to that very large sum of money, nearly £700 million, in the UGC's contributions to universities being granted on a more accountable basis and probably rather better managed than in the past.

1749. The £700 million includes a teaching base?
(Dr Evered) No, that is 40 per cent or so. The total UGC spend is of the order of 1,600.

1750. And the 700?
(Dr Evered) Is that which is nominally there to support the research base. That is quite clear from the Government's recent publication.[1] The issue is that sum of money. I know a number of universities now have taken steps to establish research committees and some of those research committees have been given a great deal of flexibility and realistic opportunities for the virement of sums within the research component of the UGC grant. What we are concerned about is that the dual support system as originally described was established on the basis that the universities were one limb of that system and all other funding agencies were the other limb, not merely the research councils. This would be a very substantial change to the research support system in which the charities are heavily engaged in biomedical science, and the consequences for the charities I think should be considered very seriously. The figure of 40 per cent overhead charges has been widely bandied about, but the imposition of a surcharge of 40 per cent, or any other proportion come to that, would inevitably decrease the amount of research which the charities were able to support and also the number of researchers they would be able to support. That could have a very serious secondary consequence for the support system, particularly since many of those supported by charities are supported at the rather crucial post-doctoral level, these are people who have received much of their training but not reached the

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[1] White Paper Command 114, Higher Education: Meeting the Challenge.

[Lord Kearton *Contd*]

position of seniority to be credible contenders for permanent posts.

Baroness Lockwood

1751. But what you are referring to is a redistribution of the public funding of the research base. Surely the documentation which we are now getting is going beyond that and is saying that not only the charities but the Government itself and industry should therefore give a higher overhead contribution, making a greater contribution to the research base in the universities. It is not just the charities. I am interested in your reaction to this, because are you saying that the policy as such is wrong, or that it should not be applied to the charities?

(Dr Evered) I am saying it should not be applied to the charities, and I would make what I consider to be a crucial distinction between other Government departments and industry. Most of the research which is done in the universities for other Government departments or for industry is done on a commercial basis. There is a clear customer-contractor relationship, to use Rothschild's term. The research which is funded by the charities is almost all investigator-initiated, and therefore it is much more similar in operation to research funded by the research councils and that is why we believe the charities should be treated somewhat differently.

Chairman

1752. Could I switch the questioning to another area which I think should be explored. The relationship between the charities and the MRC in the co-ordination of their research programme: are you satisfied with the relationship? Do you think the co-ordination is satisfactory or would you suggest changes? I particularly draw your attention in that respect to your paragraph on page 10, where you refer to the fact that there should be more comprehensive data from community studies in order that research work should more accurately reflect the health needs of the nation, which of course is our terms of reference—priorities in relation to the needs of the National Health Service.

(Dr Evered) There are, I think, two components to that question and the first is about the inadequacy of available data to identify health needs. Of course the moment one starts talking about needs, one runs into a minefield of difficulties, because are we talking about the perceived needs or needs which are only evident to official bodies? But there is a need I think for better data on the requirements of the community, and these of course are not only requirements in the sense of health needs, but also the social support which is required by those who are chronically sick or disabled. We do have a certain amount of information and I believe the quality of the information we have is improving steadily now. Certainly those engaged in epidemiology and Health Service research now do entirely recognise that data has to be collected from properly and soundly based community studies. With respect to the other part of the question about collaboration between the Association and the Medical Research Council, I think the background is that there has not been adequate discussion and co-operation between the charities and the research councils in general in the past, although there have been some very good specific examples of collaboration, one of which has already been mentioned, and that is the UK Committee for the Co-ordination of Cancer Research. This we are hoping will change certainly now that the Association is reconstituted and in a position to speak with a single voice for the charities, and with the change in the secretaryship of the Medical Research Council we have every reason to believe that it will be possible to collaborate and co-operate with them more fully in the future. We do see however that it is important to draw into those discussions other bodies which are responsible for the provision of the research support system.

Lord Kearton

1753. When we have been talking to other bodies about the support system, it would appear that about £100 million a year for the UGC and £100 million a year for the research councils would transform the situation and open up real opportunities and in general get the thing back on an even keel. Have you attempted to quantify what you think the sysem needs to put it in a healthy state?

(Major-General Dennis) The short answer is, no!

1754. Taking your own field, cancer research, one had the impression this was extremely buoyant and up-to-date with adequate money?

(Dr Crumpton) I would hesitate to say whether we have adequate money. We can effectively spend what we collect. We do not actually collect a sufficient amount of money to fund all of our forward scientific looking. There has to be a system of priorities which we establish.

1755. With respect, everything has priorities, what sort of shortfall do you have?

(Major-General Dennis) Within the Imperial Cancer Research Fund, we could do with about another £100 million spread over the next ten years.

1756. £10 million a year?

(Dr Crumpton) That is 30 per cent more than we have at present.

(Major-General Dennis) One of the reasons you have got an up-beat impression this morning is that the Imperial Cancer Research Fund took a decision two years ago to run down dramatically its endowment and to go in for a major phase of expansion, and you catch us today at the height of that expansion phase, so inevitably you get a very up-beat impression. If you came three years ago, the impression would have been of excitement in the work we were doing but of frustration that we were unable to do more.

[Lord Kearton *Contd*]

1757. I accept that, of course, but in the context of what has been £22 billion in the Health Service, £700 million for research in universities and well-found laboratories, the sort of comments we keep coming up against, "Another £10 million a year would make all the difference to us", all of it adds up to relatively small sums. One of the conspicuous absences from your enormous forum was someone from the Treasury. Without having somebody there who hands out the money, it is not terribly convincing.

(Major-General Dennis) I think in some ways you mistake what we see this forum as providing us with. What we feel we lack so far is an involvement in defining the context in which we are going to work and that is irrespective of the sums of money which are going to be spent. What is important to know is how what is available is going to be spent by the different people who are involved, so you can make a sensible decision yourself.

1758. Could I press you on cancer—I think you said that the ICRF provides one-third of the total cancer funding, therefore others provide two-thirds?

(Major-General Dennis) The Cancer Research Campaign provides about one-third, the Government and the rest of the charitable sector provides the remaining one-third.

1759. What is the quality of the one-third which is funded outside the charities?

(Dr Crumpton) That is mainly funding by the MRC and it is also high quality but mainly on the basis science side although not entirely. But it would be high quality research.

(Major-General Dennis) I think you want to be careful looking at cancer, which is an untypical research field. We have Dr Joan Austoker here who has just finished writing the history of the Fund and she would bear me out that there is an unwritten understanding that the bulk will be funded by the charitable sector. Exactly the reverse of that appears in almost every other area of research.

(Dr Austoker) That is absolutely correct. When the National Health Service was first constituted in 1946-48 the cancer charities were brought into the discussions and asked if they would continue to maintain a high level of funding in cancer research so it would not be seen as a Government responsibility. That has actually continued to be the case in any further discussions, so at the present time the Medical Research Council and the DHSS and the Scottish Health Departments together contribute 18 per cent of the funding for cancer research, 82 per cent comes from the charities. That has always been the agreement, as General Dennis said an unwritten one, but a most explicit agreement between the Government and the charities.

(Major-General Dennis) This is one of the dangers, that we have tended to focus on cancer research purely because of the building in which we are, and forget what a strange beast cancer research is.

(Dr Evered) I think no one is in any doubt that given additional resources they could be spent constructively and usefully. Clearly there comes a time when resources, if provided in excess, would be frittered away on trivial things, and there are very good historical examples of cases of this. You cannot solve problems merely by throwing money at them. You need an adequate knowledge base, you need new ideas, you need adequately trained personnel to carry out basic research successfully. How much is involved is almost an unanswerable question, therefore, because one can perhaps only define it when one finds one is using funds on trivial research, and I do not think any of our member charities are in that position. I know the Medical Research Council would reject very firmly the idea they were spending money on trivial research. One comparison which might be worthwhile considering is that the National Institutes of Health in the United States during this fiscal year had a budget of $6.4 billion. Even with the present sorry state of the US dollar, that amounts to £3.6 billion. If one does a crude and probably phoney piece of arithmetic and says that there are four times as many Americans as Britains, we come down to £900 million sterling, or roughly seven times that which is provided for the Medical Research Council. The other thing which is worth noting about the United States is that the charities are a very powerful group in the United States. The largest charitable foundation in this country of course is the Wellcome Trust, if one were to rank the Wellcome Trust among American charities in terms of their financial size, it ranks I believe about 30th in the order. I am not for a moment suggesting that necessarily all funds spent by American foundations or all those funds spent by the National Institutes of Health are necessarily well spent, it may well be and probably is some of them are not, but it does just show up a very striking disparity between the amount of resources which are put into medical research in this country and those in the United States.

(Major-General Dennis) I do not think we are looking for that much more money, we are looking to be more closely involved in trying to decide where best to put our money. One of the things we must remember about the charitable sector is that it looks after some of the Cinderella problems. Looking around the room here I see represented the British Diabetic Association, Age research and Mental Health. They are three areas which are largely neglected where publicly funded research is concerned and the research on them is largely financed by the charitable sector. May I throw that out as a comment.

Chairman

1760. Could I ask you to elaborate a little on the section in your report relating to the training of medical researchers, which is a very important

[Chairman *Contd*]

sector. You refer to the evaluation of these processes, that is the training processes, being absolutely essential to assess the effectiveness of the various training programmes. You go on: "The major issue is the absence of an adequate and rewarding career structure ...". Those points have been made to us before and I would like you to amplify them if you would from your point of view.

(Professor Howell) I think the traditional career structure involving a period of post-graduate and then post-doctoral training and then absorption into the medical research institution or university teaching post where the research career can continue has really suffered within the last ten years by the absence of any expansion in the university system or in turnover of posts to any significant extent. This is the area where the charities on their own can do very little because this would involve long-term funding. Going back to collaboration between the Medical Research Council and the charities at the scientific level, you can have good collaborative projects, and the Diabetic Association has a five year, running on for a further five years, collaboration with the Medical Research Council. The problem comes in long-term commitments which for the collecting charities is very difficult because they are living on current income and not endowments. In that instance the only way forward is to look to the MRC and the charities collectively, together with the DES and Vice Chancellors, to see if we cannot sort out a long term career structure for these people. At the moment it does not exist, and that is one of the reasons why these people are dropping out of the system at that point in their careers.

1761. There is a central manpower committee, is there not? Does this not come within your purview?

(Professor Howell) Not as far as I know, Sir.

1762. It is only recently they have realised the large contribution these people have made. This was part of a debate in their Lordships' House when the academic world heard Lady Trumpington's figure of manpower and we realised the great growth on the medical research charities side. The DHSS, or so we thought, were including almost as though they were permanent career posts the posts which the AMRC produced. It would be fair to say that the whole growth of understanding of medical manpower in this country is something with a very short history. There has been a lot of thought about it, but I fear that the Government have not had such reliable statistics in the past as they have had in the last two or three years as a basis for their new planning.

(Dr Evered) There has been a great deal of thought based on inadequate data. There is of course the other issue and that is the non-medical graduate researchers who play a very important role in the system, particularly with advances in biosciences in recent years. People with basic science training are absolutely crucial to the development of medical research nowadays. Of course there is no central manpower committee for such people and their careers develop in a rather haphazard and *ad hoc* manner, and often come to an end in an equally haphazard and *ad hoc* manner.

1763. Apart from the Imperial Cancer Research Fund, the career prospects are not very attractive for these people?

(Dr Evered) That is correct.

(Dr Crumpton) And the same for the Cancer Research Campaign.

(Colonel Brearley-Smith) For all that there are only a few charities which do it at the moment, there is a feeling among members of the Association that they must be responsive to the needs in terms of training people to take up research posts in the future. One or two of us, including my own organisation, are making funds available for research training fellowships and the like.

1764. Through fellowships or through what channels?

(Colonel Brearley-Smith) These are by direct application and the normal process of selection.

(Major-General Dennis) Fellowships.

(Professor Howell) There is an awful dilemma here on post-graduate studentships. When the MRC funding was cut, it reduced the number of post-graduate studentships available and the charities stepped in to fill that gap. Now there is another round of cuts and the whole thing is spiralling downwards. One wonders how long it can go on. The Government is responsible, I think the charities would say, for supporting medical research but at the moment it is not properly funded.

Lord Kearton

1765. Professor Malpas this morning was not saying that about Bart's.

(Major-General Dennis) That was because he is lucky and is being funded by the Imperial Cancer Research Fund.

(Dr Crumpton) The people who come through us are selected and we would——

1766. They cease to be funded by charities and become absorbed in the larger, outside situation.

(Dr Crumpton) We are in a fortunate situation. It depends what fraction of the available manpower you are interested in supporting. If in fact you are only interested in the top 5 per cent, the very best, then in fact you can fund these, and that is true both of non-clinical as well as clinical graduates. If you think we ought to be providing positions for the top 30 or 40 per cent, then you have something of a problem.

Baroness Lockwood

1767. What kind of posts for the non-clinical graduates?

[Baroness Lockwood *Contd*]

(Dr Crumpton) Some of these, after they have done a three year post-doc with us, would go into university positions, some would go into industry, some overseas, some into the MRC-based spectrum. Over the last seven years there has only been one post-doc who was unemployed at the time he left. We have a turnover of something of the order to 30 to 40 post-docs a year, so out of 280 over a seven year period there has only been one who did not have a post when he left. We have a good reputation.

1768. One can see a natural route for the medics, the clinical posts, but there is not a natural route for the non-clinical ones.

(Dr Crumpton) There is a natural route for the best people. What has happened in the last few years with the erosion of the amount of money which has gone into research, is that the opportunities for the fraction of peole you are talking about have decreased. So while there were very good opportunities for the top 30 or 40 per cent ten years ago, now we are talking about the top 5 per cent.

Lord Kearton

1769. There is a remarkable paragraph in the paper by the Institute of Cancer Research, which says: "There seems little doubt that the biggest single deficiency in medical research at the moment is of able recruits. The career prospects of the medical research worker are dismal and few of our brightest youngsters see any virtue in undertaking a lifetime of excrutiatingly hard work for a return which is often considerably less than that available to a skilled labourer." If one looks at the advertisements for medical researchers, the salaries offered are derisory and I notice increasingly that people are now advertising and saying, "We have a research grant to do so and so but we require two or three technicians for one year or two years to join our team to do this work." Even if you have a grant, you have to recruit technicians. Then the advertisement offers £7,000, £6,000 or £8,000. If that is the position, then the thing is going to die out and you will not get anybody.

(Dr Crumpton) The Biomedical Society carried out a survey of what happens to biomedical graduates who pass through our universities. Ten years ago traditionally the first-class honours, upper seconds, virtually to a man went into research, became research students. That is not true any longer. No more than 50 per cent of those are going into research, and maybe less than that. What has happened is that they now go into the City; they go into areas which give them a better return, a better standard of living. That is a fact of life.

Chairman

1770. Clearly you agree with the other witnesses that this is important?

(Major-General Dennis) It is a burning issue.

Baroness Lockwood

1771. General Dennis referred to some of the neglected areas of research. It has been put to the Committee through other evidence that priorities in medical research are distorted by the charities in the sense that the popular causes are more successful for the charities. How would you see your forum, or your organisation, making a contribution to some of these neglected areas of research, some of which you refer to in your evidence?

(Major-General Dennis) I do not think that we would accept that medical research charities actually distort the balance of research in any event. We have already talked about cancer, and here we have told you of the undertaking, albeit not documented, that the research will largely be funded by the charitable sector as opposed to the Government sector. If the charitable sector were not undertaking that, I am sure the Government would, given the morbidity et cetera which comes from cancer, have to be spending a great deal more, so in a sense we are enabling them to put their money in other areas by removing a burden from them. The balance of resources alone does not seem to be to be distorted by that at all. I think the same applies to some of these Cinderella areas—that was the word I used—where if you are looking at overall priorites and you had very difficult decisions to make, they would drop off the end of your priority list. We are not talking here of very large sums of money, but we are talking of sums of money which do allow some research to be done in some of these areas which are indeed very important areas, particularing age and ageing, which would probably not otherwise be done. I do not actually read that as a distortion of effort, I read it if you like as the public expressing an opinion as to some of the areas they believe research ought to be done in which would otherwise likely not be undertaken at all.

Chairman] I think we ought to draw this session to a close. May I conclude by thanking you very much for giving us your time this afternoon and also for your paper and for the way in which you have answered our questions which has been very interesting for us.

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MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

Thursday 3 [illegible]

NURSING RESEARCH

Professor [illegible] Dr Jane Robinson

DENTAL RESEARCH

Professor [illegible] Duckworth and Professor [illegible] Crawford

[illegible] by the Order of The House of Lords [illegible]
30 June 1987

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HOUSE OF LORDS SESSION 1987–88

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SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

Thursday 3 December 1987

NURSING RESEARCH

Professor R Crow and Dr Jane Robinson

DENTAL RESEARCH

Professor R Duckworth and Professor I Gainsford

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THURSDAY 3 DECEMBER 1987

Present:

Adrian, L.	McFarlane of Llandaff, B.
Errol of Hale, L.	Nelson of Stafford, L. (Chairman)
Flowers, L.	Perry of Walton, L.
Hunter of Newington, L.	Rea, L.
Lockwood, B.	Smith, L.

Memorandum by the University of Warwick, Nursing Policy Studies Centre.

1. The opportunity to submit evidence in relation to Nursing Research is welcomed.

2. Identifying the amount of financial resources available to nursing research is not easy. The most recent government figures relating to the DHSS Nursing Research Liaison Group (NRLG) are for 1981. At that time, the NRLG (which was funding the two nursing research units now at the University of Surrey and King's College, London) received £818,000—or 2 pence from every £100 of government research and development money (Robinson 1987).

3. Nursing as an occupation consumes £3 from every £100 of public expenditure (National Audit Office, 1985). Whilst not looking for direct equivalence between these two ratios, the present evidence suggests a wide discrepancy. Even allowing that Regional and District Health Authorities, together with private charities, will be devoting some further monies to nursing research, it seems that systematic inquiry into nursing is seriously under-resourced.

4. The development of research-based nursing knowledge is currently fragmented and lacks balance, that is

i. Many academic nursing centres concentrate mainly on psychological and socio-psychological research into nursing roles, functions and education. There is, for example, a relatively large body of evidence on the work of the ward sister, and the attitudes of student nurses. Also included here is work which has the nurse as a therapeutic agent at its core.

By contrast there is quantitatively far less clinical and epidemiological research in the area of nursing activities. Yet questions relating to the distribution, prevention and treatment of conditions such as bedsores and varicose ulcers are critically important as they consume large amounts of nursing time.

In addition, there is virtually no academic research into nursing economics and nursing manpower.

ii. Nurse researchers at district and regional health authority levels are employed mainly to implement and assess:
—standards of care/workload measures
—the implementation of professional nursing paradigms (primary nursing, and the nursing process).

One serious limitation to this work is that it is frequently promulgated, implemented and then evaluated by the same nurses.

iii. NHS research units are currently being asked to take on small scale research projects on very specific nursing policy issues defined by the customers. They tend, however, not to include nurse researchers amongst their staff and therefore lack important nursing perspectives on many of the issues.

iv. All of the above appears to be seriously under-resourced (although hard evidence is hard to come by).

5. In a recent study of the management of the nursing labour force after Griffiths (Robinson and Strong 1987) it was suggested that research in nursing should be focused on aspects of the quality of care. It should be centred on the determinants of four criteria in health care, namely:

i. Its effectiveness

ii. Its efficiency

iii. The equality of provision

iv. Its humanity

These criteria demand a range of research strategies which span the natural and social sciences. They must, therefore, be inter-disciplinary. The effectiveness of nursing, for example, can only be fully assessed if it is included together with an analysis of the effectiveness of medical procedures, and health care provision in general.

6. Robinson and Strong (op cit) recommend that one way to achieve a successful research contribution to the evaluation of quality would be through "the creation of higher-level multi-disciplinary research centres for advanced research and training in quality. Such centres should be linked to both the service and academia, and be staffed, not just by nurses, but also economists, epidemiologists, health service researchers, and so forth. Nursing quality requires a team effort" page xi.

7. Such a strategy would ensure that many of the current limitations to, and restrictions on, nursing research could be overcome, and that scarce resources were deployed effectively and efficiently.

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Jane Robinson
Director

September 1987

Examination of witnesses

Professor R CROW, Nursing Practice Research Unit, University of Surrey, and Dr JANE ROBINSON, Nursing Policy Studies Centre, University of Warwick, called in and examined.

Chairman

1772. Good afternoon, Professor Crow and Dr Robinson. Thank you very much for coming along to give us the opportunity of talking with you this afternoon. We have, as you probably know, had a number of representations from interests and organisations in the nursing profession, but we thought that before we concluded our inquiry it would be appropriate to have a question session to inquire from you a number of points which I think are on people's minds related to the position of nursing research within the terms of reference of our Committee, which is looking into priorities in medical research related to the needs of the National Health Service. I would perhaps start by asking if there is anything you would like to say as a preliminary statement or would you like to proceed straight to the questions?

(Professor Crow) I think we would be happy to proceed straight to the questions.

1773. If I may start the questioning from the chair, could you explain to those of us who are not so familiar with the medical world (some are, others—including myself—are not) how you see the interpretation of the definition of "nursing research"?

(Professor Crow) Lord Nelson, if I might start and ask my colleague to add to any comments I have to make, in answer I would like straight away to emphasise that, as I see nursing research, I see it as being no different from any other research one would engage in in any discipline. What distinguishes it, if anything does, is the nature of the question. The actual method is that which appertains to answering the questions and that, of course, depends entirely on what line one is pursuing. I would see the questions as concerning issues that relate ultimately to the delivery of nursing services within the National Health Service, but that could also have implications beyond the National Health Service. Those questions might range quite widely from those which are specifically to do with the "what" of what you give, to the aspects that would relate to the organisation and the "how" of how you give it. I do not know whether it would help if I gave an example of some of the research I happen to be currently engaged in. I would add it is only one aspect of nursing research and one end of the spectrum.

1774. Please do.

(Professor Crow) We currently have a research programme that concerns itself with pressure sores with which your Lordships may not be too familiar—bedsores or ischaemic ulcers, according to which notation you are used to. These arise, or were thought to arise, as a consequence of patient factors, principally in those who are elderly and in poor health, and where there is a degree of paralysis

[Chairman *Contd*]

or some degree of immobility. Now, one of the questions one asks, of course, is why do they occur? We have until now had rather a traditional answer—it is due to pressure. Therefore how you prevent them is to remove the pressure. We had standard techniques for doing that; to turn the patients. Well, with an increasing understanding of the relationship between the biology and the engineering, which, Lord Nelson, you will know rather more than I since I am not a bio-engineer, it has become increasingly clear that the answer to the "why" is insufficient. We are now addressing this "why" by looking at patients and using ultrasound to look at the depth and texture of the tissue that underlies the support mechanisms and, to look at the interface pressures, we are using a form of hydraulic system. What we have found to date is that the pressures the patients' experience clinically as a consequence of our measurement do not explain why so many pressure sores occur. You cannot deduce the consequences on the basis of a direct link between what we understand as pressure and what we see as the results of pressure. There are two aspects. We cannot see why there are more sores in the sacro-iliac areas and we do not understand why there are not more in the heels. Now, that is where we are at. Out of that, once we do understand the mechanisms more fully, we will be in a very much stronger position to develop the techniques to remove the problem and we would see ourselves moving on into that. I would consider that to be nursing research. The question is a nursing one. We know from our original surveys that in fact with at least 80-85 percent of the pressure sores the patients experience in hospital nurses make the decisions. So I would see that as a nursing decision and that I would see as nursing research.

1775. Thank you, that is very interesting. I see from the information we have been given that nurses represent some 45 percent of the cost of the health service, so the proper effective utilisation of these qualified staff is a very important matter. How far does your nursing research penetrate into the question of the effective use of this large force of manpower?

(Dr Robinson) Professor Crow and I represent two ends of the spectrum of nursing research, and we are completely agreed that we both do nursing research. I think Professor Crow very ably described a clinical problem and the way in which that unit is addressing that. My unit is, I must add, very new and we are still feeling our way with many of the concepts in the organisation, planning and delivery of care around the sorts of questions which you have just asked.

1776. Are you yourself new, or is your team new?

(Dr Robinson) I have one research colleague who is a medical sociologist. That in itself demonstrates that we consider we are both doing nursing research, but we are drawing on skills of the fundamental disciplines to address particular problems. This is something we are very clear on, that one of the first things in nursing research is that it is very important to develop conceptual clarity about the nature of the problem which presents itself to you and then to select the appropriate methodology to address that particular issue. In my centre we have one core piece of research which is still on-going, which is looking at the provision of professional nursing advice to management following the implementation of the NHS Management Inquiry, the Griffiths Report. In that, questions of effectiveness and efficiency are central, and the delegation of accountability and responsibility to the levels as near as possible to the delivery of patient care. However, we had to begin at the beginning and the one question we had to ask before we could address that was, what actually is nursing advice and on what is it based? At the time when we began this research, in 1985, there was a considerable amount of polemic as to what nursing advice was about, and we had to dig behind that to get at some of the real issues which seemed to us to be the key to this question. Many nurses at that time took a stand on the law and said, "We cannot have our positions removed at district level in this way, the law does not allow it." In fact when we examined this closely, there is no law which says this, and indeed the way in which nurses are deployed in a management structure is entirely the business of those who decree how the National Health Service shall be organised. On that basis, we proceeded to ask through an ethnographic research strategy, which involved collecting analyses of many interviews with managers, nurses, chairmen at district level, what is it that nursing advice consists of, and how can it be rendered more effective. We came to the conclusion on the basis of our first round of field work that nursing advice is about the quality of nursing care. It may seem obvious but the issue was very clouded when we began. We, for example, had four criteria—effectiveness, efficiency, equality and humanity. We concluded at that time that many health authorities were very concerned with questions of efficiency, less so with the actual effectiveness of health care inasmuch as they were concerned very much with the efficiency of existing services.

1777. Effectiveness being cost effectiveness or medical effectiveness?

(Dr Robinson) In terms of the intervention achieving its desired objective, so medical effectiveness. I would use cost effectiveness within the orbit of efficiency; a cost benefit analysis. On that basis we proceeded to ask what nurses thought about in terms of these criteria and we discovered they are concerned very much with the effectiveness of the process too; less so, we observed, in terms of the ultimate outcome, the long-term outcome. This is a very difficult thing to measure, I am not sure we are even clear what our objectives are. We then proceeded to move forward on that and we asked ourselves about the cost effectiveness and we

[Chairman *Contd*]

commissioned a review of the economics of nursing by Dr Alastair Gray, who is probably the economist in the country who knows about nursing economics. He found after a wide survey of the literature that 90 per cent of the rigorous work has been done in the United States, only 10 per cent out of 200 references can actually be attributed to British authors, and that there are enormous gaps in the literature. Ultimately this is a long-term venture because nursing research is so new and has only been established in this country in the last 20 years. There are many, many questions we have to answer, and we have to have some priority for these because we cannot answer them all. Ultimately I think the sort of work which Professor Crow is doing has to be linked with the sort of work we are doing, so when we have techniques for the prevention or treatment of pressure sores what we have is the most cost effective way of deploying the nursing labour force in order to achieve those ends. I would see us drawing on many fundamental disciplines ultimately in terms of addressing nursing questions. We are, though, just at the beginning.

1778. Who funds these two areas, which are rather different? How are they funded and who initiates them?

(Professor Crow) We are funded by the Department of Health and Social Security.

1779. Direct from headquarters?

(Professor Crow) Yes—I assume it is from headquarters.

(Dr Robinson) We are funded on a fixed term contract by the King's Fund.

1780. Do you see nursing research as something which should be funded from headquarters or is it something which should be funded on a regional or district basis, bearing in mind you are right at the sharp end of things in the nursing world and therefore much closer to the particular day-to-day problems?

(Professor Crow) I think my answer to this would be that nursing research needs to be funded by an authority which is independent of any organisation whose funding is linked closely to priorities which change over the short-term. That is the current problem certainly with DHSS funding, they have their priorities, they change their priorities, they have every reason to change them because of course their function is to provide the necessary information for ministers.

1781. But your work is in fact done within the National Health Service not within the medical schools?

(Professor Crow) The field work is carried out in the National Health Service, that is absolutely right. Our unit is in the University of Surrey.

1782. So it is university based?

(Professor Crow) It is in the Department of Biochemistry because I have a division there.

1783. Does that go for Dr Robinson's work?

(Dr Robinson) We have actually given a considerable amount of thought to this inasmuch as we are trying to run a very small research enterprise in a cost effective manner, but there are clearly diseconomies of a very small scale venture. I think there are problems across the field in terms of nursing research inasmuch as we desperately need to draw on excellent expertise from a number of academic disciplines. There are problems of people in discipines being full-time employed in what may be seen to be a subsidiary venture to their main interest. I think you have to maintain links with the parent discipline otherwise people's careers suffer in that kind of structure. It seems to us that certainly the work that we are doing should be ultimately located within health services research in the sense that we would see nursing not being treated as some sort of special or particular discipline. It has to be seen within the whole range of the delivery of health care and how that is most effectively and efficiently delivered. So that we believe that there should be—and we have recommended it in our first report—higher level multi-disciplinary centres on a regional basis linked to regional health authorities, if only because we have in this country a real prize possession, and that is health care planned on a geographical basis which for epidemiological purposes is absolutely essential. Otherwise, you get the bias involved with institutional research. We would see that that way there would be the scale of population, there would be a large enough population, for properly conducted randomised control trials etc., a wealth of expertise in terms of academic centres, and there would be the opportunity for the research to be carried out in some form of collaboration with the actual deliverers of care in the National Health Service itself. We see this as a collaborative enterprise. In saying that I am very aware of the difficulties in terms of the timescale, particularly of fundamental research, and that must go on as well, I believe. But I think it is much easier to work out some of those sorts of practical problems of carrying out research in that kind of environment particularly linked to academia, but also linked to the service. I would agree with Professor Crow that ultimately the funding for that has to be derived from an authority which is in the short term independent of the immediate priorities.

Lord Perry of Walton

1784. Would you not say most of the studies that you are doing are studies that management ought to want to know about?

(Professor Crow) Absolutely.

1785. They ought to want to know the results of that.

(Dr Robinson) Exactly, yes.

1786. If that is the case, would you not think it ought to be funded by management?

(Dr Robinson) We again have addressed this question. If I could explain the research we did—as

[Lord Perry of Walton *Contd*]

we call it, the Griffiths research—carried out in seven health authorities in Wales and five English regions, in fact, two of those districts we studied were attempting to carry out research and had appointed research nurses. There are all the practical problems of management wanting the answer yesterday and, of course, research does not work like that. We think that there is an intermediate position and indeed one should work closely with managers. We have given 16 seminars on our report to many Health Service managers. There are ways of feeding that back in, but I think the research enterprise has always to have a certain detachment from the immediate day to day problems of the Health Service because I do not think that is conducive to good research.

1787. So you do not think managers ever have a longterm view?

(Dr Robinson) No.

(Professor Crow) Might I just add two comments on Lord Perry's question? I always find it difficult to have to say yes or no because the core of your question I cannot but agree with—what we are doing managers need to know about—but if I could just from an academic standpoint say this, to me the disadvantage of tying the funding to regions is that there is always an element of competition when you do that. Before we know where we are we shall have all the same units in the different regions pursuing a similar subject, and I feel that what we need in nursing—and as I understand there is a need in other disciplines—is the centres of excellence, if I might use the word, where one is pursuing something and the other centres possibly, particularly with the short supply of resources, are pursuing other questions. To that extent, I think that in the immediate future, if one tied it to just regional funding, there would be a danger of replication.

1788. When I said management, I did not necessarily mean regional management. There is national management as well. Would you think that was better?

(Professor Crow) As a sort of national notion, yes, I would prefer that.

Baroness McFarlane of Llandaff

1789. I would just like to follow up something that Dr Robinson said, that you were making a very strong case for multi-disciplinary studies in the nursing field. I suppose one could make that case for other health professions including medicine and that we might all be enriched by multi-disciplinary approaches. I wonder, on the other hand, when you get into the clinical end of studies if that is equally desirable. I question it because we have had some evidence from another research unit that says very strongly that nursing research should be carried out by nurses and I would just like to explore that a little further with you.

(Professor Crow) Might I perhaps be the first to answer that, Baroness McFarlane. As to the business of who does the research, it would seem to me unwise to assume that a clinical question can solely be answered by one discipline. In the example that I gave you, the pressure sore study, we need to ensure that the research is of such a calibre that it actually achieves its endeavour. For that we need bio-engineers. What we must have, and I do insist on this, is nurses interacting with the scientists to be certain that we get the questions, because the questions I consider come out of the clinical problems and we have to be there at the sharp end to know what the clinical problems are out of which we get our question and who answers the question that one then asks depends upon which discipline it is. There may be occasions when a nurse will also have a bio-engineering background, in which case there is to be no debate, but I would not like it to be seen that, just because it happens to be about nursing, it is only nurses. I do not think that is in the best interests of our own discipline in my judgement.

1790. Could I also follow up some of the points made about funding of nursing research? I think we have had quite a lot of evidence about how nurses regard the proportion of governmental monies devoted to the service and devoted to research in nursing and I wonder if you have some observations about that, but also the kind of economic contribution that clinical research can make to the Health Service? I am thinking particularly of the pressure sores work and some of the work that has been done on the cost of pressure sores to the Health Service and whether there is a benefit to be achieved by research in these areas.

(Professor Crow) Might I sift out some of the questions which I feel able to answer, if I could then pass it on to my colleague, Dr Robinson, who will answer the others. The question about the contribution that our research can make to the cost of running the Health Service: there have been no substantial studies upon which one can base any sound argument. Most of the figures one sees in the literature are guesses, (guesstimates), and they range from one figure to another. I have seen a figure of the equivalent of £150 million that we are actually spending in the Health Service on coping with the business of pressure sores. That was actually an old figure. We have recently done a prevalence study built on a previous prevalence study and we found the number of pressure sores is actually increasing. So, if anything, the cost will be greater rather than less. There has been an analysis of the cost of actually caring for a patient who develops grade 4 pressure sores. What that means is that you have a sore that, in fact, penetrates as far as the bone and can be about the size of a fist. They are not the most frequent but when they do occur they are, in fact, actually very severe. Looking at the analysis that Miss Hibbs has actually done at St Bartholomew's Hospital, one can argue the case in two ways: either in terms of what it means for the number of other patients that might have been treated had that patient not developed a pressure sore and this would be in the region of whatever

[Baroness McFarlane of Llandaff *Contd*]

numbers would be admitted and treated over a period of two months; the numbers of patients that could have gone through the system would be quite considerable if you multiply occasions by the number of those with sores; or you can argue it in terms of how much it actually costs to have to care for a patient with those sores and it usually takes at least three months before one can cure them which adds up to a sum in the region of something like £26,000 for a patient over three months. So the sums are considerable and I think in fact the amount of research monies which come in to the research unit bears absolutely no relation to what the financial consequences are for the NHS without effective treatments.

Chairman

1791. Do you want to add something, Dr Robinson?

(Dr Robinson) Yes, please. Could I go back two questions and support what Professor Crow has said about the contribution which other disciplines have to nursing research. I see the involvement of nurses as critical and I see nursing as the substantive area and the selection of the appropriate methodology as being the critical issue in terms of conducting effective and rigorous research. Nurses cannot possibly be experts in the whole range of methodologies, particularly in the sorts of areas which Professor Crow has referred to which require many, many years of study. I think there is an equivalent here in medical research, that many of the advances in medicine have not in fact been produced by doctors doing research but by biochemists for example, but that doctors are always there identifying the questions and working with colleagues from the appropriate disciplines, and that I would go along with entirely. In terms of the cost effectiveness of care, I think Professor Crow has said everything we want to say on that. In our own area the question of the organisation and delivery of nursing care—the deployment of the nursing labour force is the term I would use—there are so many questions which we do not have answers to here. The question of what grade of nurse should actually hold what form of responsibility and to whom should she delegate some of that responsibility, is something which really requires a very detailed analysis and does require a range of disciplines I believe to bring to bear on it. I am really arguing in support of what Professor Crow has already said. I am sorry, I have lost the next point.

1792. The proportion of money.

(Dr Robinson) Yes, the proportion of money: one cannot say that because the figures do not exist for us to make proper comparisons. The last published figures on the amount devoted to the nursing research liaison group were published in 1981. I understand unofficially that the sum has since been reduced and does not anyway take account of inflation. I really do not know what is spent on nursing research in this country, either in terms of the DHSS contribution or indeed of other funding sources but it seems it is always in terms of tenths if not hundredths of what is spent on medical research. I say that without in any sense moaning, but we are faced with enormous diseconomies of scale in nursing research, and this is a problem which can only be addressed by looking at the funding of health care research in total rather than puzzling it out and saying, so much for all this and so much for all that, etc. I suppose it is possible to put a proportionate figure on how much might reasonably be expected to be spent in terms of the total expenditure on health care, indeed it might be possible to draw some analogy there with industry, but I would prefer not to put a figure on that because I feel I am not an expert in this field and have very little hard evidence with which to make those sorts of comparisons.

Lord Erroll of Hale

1793. I wonder if I could turn the discussion towards domiciliary nursing. Does that engage your attention, because I would have thought there were just as many fields open for research into conditions at home—the obvious one in winter is hypothermia, where the standard recipe is to keep warm and keep the windows shut. That might not be the right way, if it was thoroughly researched, to prevent hypothermia. Is this an area you would regard as suitable for research and is anything being done in the domiciliary area?

(Professor Crow) Yes, and the question is an interesting one. The question of hypothermia is one I would dearly love to pursue. Unfortunately in what I have been talking about I have restricted my replies to hospital patients, that was unintentional and I do apologise. I see nursing as nursing and it seems to me where it happens may or may not make a difference to how one interprets the research results. I see the sort of research we do as having as much application in the home as in the various institutions, be they what we now call hospitals or smaller community-based institutions.

Lord Rea

1794. You get pressure sores at home.

(Professor Crow) Absolutely.

(Dr Robinson) Nursing, like medicine, covers a diverse field of activity and certainly in my unit we were very aware of that in addressing nursing management (as it happens it is nursing management at the district health authority level) and we would love to pursue enquiries to the unit level. Indeed when we did our field work for this piece of work we thought of unit nursing officers in the community and we felt the community was one particular area which was worthy of further investigation. Actually both Professor Crow and I are health visitors, but that is coincidental. Obviously the community is of great interest to us personally. We also have to remember that there is psychiatric nursing, nursing the mentally handicapped, paediatric nursing, midwifery nursing in a whole range of specialisms and many other hospital specialisms.

[Lord Rea *Contd*]

All of these, just as in medicine, are worthy of detailed investigation. I think at the moment the problem is perhaps to conserve the resources we have and use them as efficiently as possible to look at issues which do have a general application as far as possible across the broad field of nursing. Indeed when my centre began that was the decision we made on that very research project, that we did not look at some sub-specialism within nursing excluding all the rest.

Lord Hunter of Newington

1795. Is that the view of nursing? Paediatricians now say there should be paediatric nurses working in the community because they require specialist skills, would you agree with this? It goes against the Cumberlege Report, I must confess.

(Dr Robinson) I think the whole question of specialism in nursing is an area which needs very rigorous investigation. I would prefer not to give an opinion because nursing is always culturally defined and what is appropriate for one particular area, even within a country, may not always be equally appropriate in another. I take, for example, the geographic distribution of community nurses or their attachment to general practices as a case in point. In fact it may be appropriate to have community nurses deployed in a geographic area, in an inner city, where there are many single-handed practices, but that may be a nonsense in a rural area. So one has to take these issues very carefully and probe just what is the appropriate deployment and it must include the cost effective deployment of care. Excessive specialisation is seriously problematic, particularly in the community because of the vast expense of covering large geographic areas when you are using extremely sophisticated, specialised skills. I think the way in which you reconcile the need for that against the cost effective deployment of staff is something which researchers can help management with.

1796. Nursing in intensive care seems to be in a crisis. We are told by Government there is plenty of money but there are not the skilled, trained nurses available to do this. Is this the kind of development which you think is important in nursing, the development of specialised skills or knowledge?

(Professor Crow) Might I just pursue that a little way. If I could perhaps bring it back to the issue of the research and development of the discipline, I see that some of the difficulties which I think you are conscious of are as much a reflection of the inevitable slow development of advances in nursing which I think has arisen because of the very limited resources we have put into the development of academic departments. To get back to your particular question, I see how one acquires skills of an advanced nature; I think it is very important to distinguish between specialisms which means caring for a particular group who have a particular problem as opposed to being able to practise in a more advanced way where there is greater understanding together with skills which have been developed to a higher level of competence. Now, as to the latter example, which is pursuing ones skills to a greater level of competence, I would see that in developing the service of nursing we need to have those nurses who rise up as advanced clinical practitioners with advanced skills in many fields. It would seem to be not unreasonable that you would have those working in the community who may be advanced practitioners with particular expertise in the care of children or the elderly—it is a bit of a large group—you could have both, but at an *advanced level* where you would have pratice in nursing that is comparable to a medical consultancy.

Chairman

1797. We have rather limited time. I want to concentrate, if I may, on our terms of reference which are the priorities of research. Would you say in the nursing field that the priorities of research are about right within the National Health Service? There has been a very considerable increase in expenditure on nursing research over the years. Is it now about right, would you say, or ---

(Professor Crow) No. I would say, in fact, in reality there is a very, very small activity in nursing research.

1798. That is what I thought you might say.

(Professor Crow) Yes, I would have to say that.

Lord Flowers

1799. My Lord Chairman, I was fascinated by the discussion of the pressure sores but I am sure Professor Crow could have discussed many other things too in similar vein. What she described was the application of scientific and engineering methods to the solution of particular health problems and I dare say hypothermia could be described in the same sort of way, that is, something which falls squarely within the terms of reference of the Medical Research Council. Why are they not funding what you are doing?

(Professor Crow) The straight answer is that we have not yet put in an application, in fairness to the Medical Research Council. It is something we do wish to do. I would be very interested to know whether or not they thought, if we did—and I would hope so—our applications would be good enough. They should be.

1800. Do they fund any work of that kind?

(Professor Crow) Not that I know of. It does not mean to say they do not. One of the members of the Committee seems to know. I think it is an extremely pertinent question. We have got to get on and do it.

Baroness Lockwood

1801. I want to focus on this question because I cannot quite see how you envisage giving more priority to nursing research. In your opening remarks you said the funding was to be taken away from priorities. Clearly you meant clinical priorities, not research priorities.

[Baroness Lockwood *Contd*]

(Professor Crow) Baroness Lockwood, it is government priorities.

1802. Concentration on different aspects of the National Health Service. Then Dr Robinson said that she wanted to see nursing research in the context of health research generally. It does seem to me that, if you are going to approach it from a multi-disciplinary point of view, you really must establish a strong claim for the various aspects of nursing research that you are involved in through the MRC and all similar bodies that are concerned with medical research in its widest context.

(Professor Crow) I do not know whether you had it on your list of questions, or what time you had thought to cease, but that brings us into the whole business of research training and preparation of nurse researchers. Part of the reason why I think there is such a limited amount of activity is that we do not actually have people in nursing who have the necessary expertise to pursue research. That is an indirect answer really agreeing with your position and explaining perhaps why it is a surprise to you that it is not happening. One does need experience and know-how in fact to write research proposals to get money from the MRC. For all your Lordships round the table this is something you have done all your lives and you are presumably very skilled at it. We have not had a long tradition in research and we are not particularly skilled at it, and I am sure we could perhaps do more than we do to make a greater impact on Research Councils and so increase our opportunities. But, you see, we have very, very few research fellowships, or studentships. The only source of our research studentships is from the Department of Health and they have, in fact, awarded those to individuals; they do not award it to the good research programmes. Now, unfortunately that is a very hit and miss affair because it may or may not be the right area of research for somebody to pursue at first level or with anybody suitable to supervise them. I would argue very strongly—and I wonder if the Committee could do anything—that we desperately need some research studentships at doctoral and post-doctoral level, sitting in good research programmes with people who know and are familiar with the subject who have research as part of their career and who can train our researchers of the future.

1803. Who would define the research programmes?

(Professor Crow) I would have thought those who were skilled at doing peer review. We have a well-established system in this country. That is how I would suggest we did that.

Chairman

1804. Who would you see funding these fellowships?

(Professor Crow) I would like to see the MRC funding some research studentships.

Lord Perry of Walton

1805. That raises the question that came up with your very first statement, the fascinating description of your bedsore research. You called it nursing research: it could have been tackled by a geriatrician, a physician or a surgeon as well as by a nurse. It needs a team. Would you not think the right way was to get the attitude changed, so that not just in these particular things which particularly attract the attention of nurses but in many other aspects of clinical research there ought to be nurses built into the team?

(Professor Crow) Exactly, yes.

1806. If you did that you would get at the MRC in a different way.

(Professor Crow) Lord Perry, yes, in the long run. I think inevitably, because of the nature of the question and therefore how one needs to address it, it is really not a single enterprise. I do not enjoy being defensive because I do not find that really forward looking, but there is a time when, if a profession is finding its feet, if one enters into a team one can be swallowed by those who are experienced and dominant. I think in reality that might have been why just in the last ten years it was possibly right that we developed independently. But it takes maturity to share and I think that as we grow that is definitely how I would see certain aspects—not all.

Chairman

1807. The present policy of course is to identify individuals in these special fellowships in training. There has been a good deal of evidence put to us that the same applies in the field of post-graduate medical students, that there is not enough opportunity. Presumably your nurses who would qualify for this type of support would stand four square with the other post-graduate medical students, or would you say there should be a specific allocation hypothecated for nurses?

(Professor Crow) I would want to see a specific allocation because the trouble in the real world is that very often priorities creep in, inevitably, and certain priorites seem to be greater than others.

1808. How in this day and age of freedom for all, would you argue that would be a good thing and would be justified?

(Professor Crow) For nurses?

1809. Yes.

(Professor Crow) I would argue it on the basis that we need to ask the questions which appertain to nursing, and it is only nurses who can ask them and we need to be trained to do so. That is how I would argue it and I think given the amount of contribution which we in nursing make to those who require health care, by definition there are questions there which must be addressed.

1810. With that background knowledge and experience?

(Professor Crow) Indeed.

Lord Perry of Walton

1811. Could one ask what proportion of graduate nurses now have had research training of any kind during their undergraduate period?

(Professor Crow) Lord Perry, I am not good with numbers and I cannot tell you what the numbers of graduates are who are coming out of the degree programmes. In fact you have a member of your own team who would be much better informed than I. As far as I know all the undergraduate programmes provide preparation for doing research.

1812. They do?

(Professor Crow) Yes, they do.

Lord Flowers

1813. To what extent would physicians and surgeons acknowledge the contribution to the practice of medicine which nursing research has contributed?

(Professor Crow) Could I just say to you that in fact the research we are doing into pressure sores is as good an example as anything else. It is just one, I know. There is no problem actually in this. We work with physicians, with geriatricians, and the geriatricians are looking to us to do the research. They now recognise that we actually have the skills and the knowledge. I do not see any of this as a problem when we have actually got good research results.

Chairman

1814. I would like to draw you out in an area where you both have experience, and that is in the health visiting area. Do you think more research and effort could profitably be put into doing more medical treatment in the home and outside hospitals and thereby relieving the strain on the hospital staff, or do you think we have that about right?

(Professor Crow) My answer to that is, I do not know whether we have done enough research to know! I hate hoisting you with your own petard.

1815. A matter for research?

(Professor Crow) Yes.

Lord Erroll of Hale

1816. High priority or low priority?

(Professor Crow) High priority because Government decisions are being taken on that without the basis on which to make them.

(Dr Robinson) Could I support that and add that this is why I feel so strongly that nursing research has to be seen within the context of Health Service research. Ultimately much of what nurses do is tied to decisions made in medicine, priorities made by other people, so if there are procedures which are not cost effective they get locked into those. Nurses are scarce and because of the size of the workforce an expensive commodity, so we not only do not know what is the most effective deployment of the labour force *per se* but how that relates to the cost effective delivery of medical care as well. I just find I cannot disentangle those two and we have to move forward on a broad front.

Lord Rea

1817. Could you talk about the position of nurse researchers in nursing schools and how that will affect recruitment of nurses? Secondly, how you see it with regard to the professionalisation or enhancing the status of your profession? I am quite sure it is an important part of it, but I do not think we have actually had you say anything about it directly.

(Professor Crow) In relation to the matter of professionalisation of nursing, I see that as essentially the business of advancing the discipline, and therefore advancing the discipline such that we ensure that our Great British public get the best nursing care there is available. To me therefore the professionalisation is about increasing our knowledge base and through that raising questions. I think the business about the status usually comes as a consequence of the standing of the knowledge of the profession.

1818. I have heard it said, if you are going to get nurses to want to do research, there are not going to be any behind to look after the patients.

(Professor Crow) I think the business about whether all nurses should be graduates is almost a separate question from whether or not it is important to engage in research to advance the profession. Then one gets tied up into what is not necessarily a research question but the place or the schools where the nurses are trained, whether we call it diploma training or graduate training. The business about how far nurse educators are involved in research—I think one ideally is a better teacher if one is questioning and recognising the nature of knowledge. I do not know in practice whether that is a reality in the immediate future.

1819. One of the major crises approaching us is the shortage of nurses. How do you think nursing research relates to that?

(Professor Crow) In looking at the problem of the crisis of nursing, and again this has to be a personal judgment as I have not necessarily got much in the way of first hand knowledge, it seems to me that you must separate out the recruitment of nurses into a profession and therefore the training of them, and keeping the nurses in the profession once you have trained them. I think those are two separate issues. I actually feel very concerned about the numbers who leave once they have trained, and those you get leaving are often your bright and able nurses, and the reason for that is that there is no challenge. The reason there is no challenge is that we have no proper clinical career structure and we have really got very little in the way of what I see as clinical work combined with research. That is what I would like to see us build in, and certainly I am trying to do that but again we have so little money to do it. You cannot practice and do research unless you know how to do both well.

Chairman

1820. We are glad you make that point!

(Dr Robinson) We are very interested in what the relationship is between the qualified professional nurse, whether a graduate or diploma trained nurse, and the role of the support worker, which is an increasing issue in the future. We have a small research project in hand where we are going to begin to explore that. The trouble with many of the questions we face is that one looks at a very sparse literature when you begin and you come back to having to make sure that you define the question adequately before you can then apply the proper methodology to it.

Chairman] Thank you very much for coming. We have found your evidence very helpful.

Examination of Witnesses

Professor R Duckworth, Dean, London Hospital Medical College, and Mr I Gainsford, Dean, King's College School of Medicine and Dentistry, called in and examined.

Chairman

1821. Good afternoon, gentlemen. Thank you very much for giving up your time to come and talk to us this afternoon. We are very glad to have this opportunity of reviewing the position on dental research. We have had a number of presentations from those interested in research in this important field. But, I thought it would be appropriate also to have the opportunity of talking with experts in the field and we are very glad you were able to come. Would you like to say anything before we begin the questions?

(Professor Duckworth) Only to thank you for receiving us, my Lord. We would prefer, I think, to take the questions.

1822. Perhaps we might start with the fundamental one, that is the basis of our inquiry which is the priorities in medical research related to the needs of the National Health Service. Do you think adequate priority has been given to dental research within, one ought to say, the confines of the present available funds? Everybody wants more funds, we take that for granted.

(Professor Duckworth) I think we would not be here if we thought there was adequate provision. I think we feel we have a job in competing. I think there are several reasons for this. There is the view of dentistry, if we relate it to medicine, as being in the public eye something of a cinderella subject. There is the view of our colleagues in medicine who by and large make judgements about research when it comes to awarding grants in dentistry. If I can digress for a moment, grant applications are very often reviewed by those in our profession but decisions are not made by those in our profession, so we see some difficulty there. There is, of course, the question of provision for research under the UGC head. Our schools of dentistry appear to be adequately funded but the time commitment of the dental teacher to teaching students and supervising their clinical work is such that the proportion of UGC money that can be spent on research and staff time for it is absolutely minimal in most teaching departments in dental schools.

1823. Because there are not enough dentists being funded by the UGC or by the NHS?

(Mr Gainsford) I think the important point to remember here is that the dental clinician has a three-role commitment. He is a teacher of postgraduate students and also undergraduate clinical students who need to be prepared to be fit to let loose on the public on graduation as independant operators; he has a service role to the patients whom he is acting for, either in a consultant capacity for their management or actually treating; and he also has a research role. With recent cuts, the effect has been to require him to concentrate on his teaching and service roles.

1824. The cuts coming from the UGC?

(Mr Gainsford) The cuts coming from the UGC. The problems arise because the two areas you are not free to encroach on the time spent are the teaching of students, because the students have to operate under supervision statutorily, and the time spent on ones patients. So now, because of the shrinking pool of academic clinical staff, it is the research in my view that suffers.

Lord Adrian

1825. What is the size of the shrinkage over the country?

(Mr Gainsford) 17 percent shrinkage.

Chairman

1826. Is it on a par with other medical academics or worse?

(Mr Gainsford) I am sure you would have the statistics as far as medicine is concerned, but the essential feature as far as the dental course is concerned is that in medicine the undergraduate is taught in the main by the N.H.S. clinicians,—the NHS funded consultants, senior registrars and registrars. The UGC funded members of staff, the professor, and other academic clinicians in medicine do not have as heavy a teaching role as on the dental side. There are very few NHS funded dental teachers pro rata to UGC funded dental teachers. It is this that has put the pressure on the dental schools. Any shrinkage on the UGC side results in the resultant pool of dental hospital and scholl clinicians having to concentrate on the teaching and service roles.

[Chairman *Contd*]

1827. This point presumably has been made by the dental schools, the Royal College and so forth, but presumably it has not been accepted?

(Mr Gainsford) I think they have recognised the problem in so far as the UGC has said that they want "a less than average cut for dentistry" and "level funding for dentistry," but I do think that if the pool of funds coming to the Universities is reduced they have considerable difficulty in indulging in the protection of specified areas within the Universities, and I think dentistry has had to accept taking some of the cuts as well.

1828. Does this come back to priorities? Is there a feeling there that dental research is not so important as relevant the needs of the National Health Service as, for instance, bio-medical research, the "in" thing?

(Professor Duckworth) I would hope that was not the position, for the general dental service of the country cost something close to a billion pounds, a big component. Outside that there is community dentistry, the hospital dental service and the teaching schools, so the expenditure on all aspects of dentistry is well over a billion pounds at the moment. I cannot think that research can be ignored when there is that level of expenditure on treating disease, much of which is preventable, and when much of that prevention has become possible over the last few years because of research. I am sure there is still a long way to go and we could prevent much more disease.

Lord Adrian

1829. Who has funded that research? As someone who has been through the hands of the dentist many times and started going through your hands in the 1940s, the experience of having dental care has changed radically and enormously. The improvements have been huge. One wonders how over those years, when presumably funding was not all that easy to come by, the improvements were generated, and the recent ones you were speaking about.

(Professor Duckworth) I think if we go back to the beginning of that period it is true to say the funding was not generous, just as we think it is not at the moment. But I think we have to accept that in the middle of that period proportionately we were doing better in terms of being able to support research in dental schools.

1830. Could I ask a supplementary: it seems to me many of the improvements were in the mechanical side of things. Was this done by the profession, or was it done by the suppliers of instrumentation?

(Mr Gainsford) Much was done by the profession. If you look at the filling materials, the clinical and research work was done by the profession. I think one accepts it is the UGC fund of academic staff, who have devoted time through research and clinical activities with the industry putting in some support for clinical trials. Much of the current successful work, undertaken with the new ionomer cements providing bonded fillings has been done by the Government Chemist in fact but with clinical dental input. This is perhaps one of the problems that we need to satisfy in dentistry; we need to increase the scientific support for the clinical dentist. We need more biochemists or scientists providing the scientific infrastructure for the clinical dentist.

Chairman

1831. We have heard that the Wellcome Trust has in the past had funds available for dental research but these were not taken up. Would you be aware of that?

(Mr Gainsford) Perhaps I ought to declare my own position. Although I am dean of a school, I am also a general practitioner and I am really not able to say why the Wellcome have not accepted protocols from me! In fact I am told that, and perhaps Professor Duckworth highlighted the point, assessors do not rate dental protocols as high as the protocols from medicine. Let us be absolutely honest, much of the work is perhaps not as life-saving as in medicine.

1832. Perhaps I might stimulate you further on that line: the uninformed might say that the dental profession has made enormous strides in recent years, the dental problems of the population have been brought down very substantially, and the problems are now all solved and therefore there is no need to do further research in the dental field?

(Professor Duckworth) Could I respond to that, Sir? I am sure that was a gauntlet thrown down!

Lord Hunter of Newington

1833. We are talking of dental surgery, are we not? You have to teach the students practical skills and that takes time. Also you have to create in many schools a dental practice, which is constantly threatened by fluoridation, so your dental students can learn to do this work, and all this is a different lifestyle is it not? You really require additional staff to do research in dentistry rather than finding time from the principal dental teachers who are involved with large numbers of students inevitably?

(Professor Duckworth) I think that is right. We are talking about a core of staff who are principally responsible in the clinical area for teaching or supervising students. Of course the problem of a career structure in dentisty in research only is similar to that in medicine; there is great difficulty in getting people to senior levels. We are all used to having grant-aided posts for three to five years, but then these people move on because the grant dies and we have to start again. There is very little continuity on the research side in dentistry because we do not have career posts. It is one per school at the moment, for someone who can concentrate on research.

1834. Do you think the National Health Service should have career posts in research in dentistry, because this is a £1 billion business as you have

[Lord Hunter of Newington *Contd*]

said, and if you improve that by 10 per cent you are saving a great deal of money? Do you think there is a role here for research in dentistry?

(Professor Duckworth) Yes, I do.

Chairman

1835. Could you answer that question by coming back to my original point?

(Professor Duckworth) That research is no longer needed? The two are related. I think the public is conscious of the fact we are beginning to win in terms of dental decay. Children have very much less decay than they had ten or twenty years ago. This is a worldwide phenomenon in the developed world; the rest of the world is going in the opposite direction. There is no saying this change is permanent. We do not fully understand the reasons, but it is probably related to fluoride in one of its several forms. The other great dental disease is gum disease, and the loss of teeth through peridontal disease is going on almost unchecked. We know only the minimum about it compared with dental decay. There is a great area for research here with the potential to save a great deal of cost ultimately to the dental service of the NHS.

1836. So there are very important areas still to be researched?

(Mr Gainsford) Even in the areas of restorations, the filling of teeth, we are a long way off finding the ideal filling material. This is a constant challenge in dental schools where agencies are asking us to conduct clinical trials for new filling materials. We have not found the totally non-toxic toothlike material which would withstand normal mastication to the level of the natural tissues. One suspects that if somebody was attempting to market amalgam, silver amalgam, for the first time today, they would be in serious trouble because of the risk of mercury toxicity, but it has been used for 100 years or more, since the middle of the last century. We are forever looking for developments and improvements in dentistry. Even in areas where one thinks we have overcome the major problems there are still improvements to be made.

1837. To what extent is dental practice influenced by changes in social conditions and diets and so forth?

(Professor Duckworth) I think around the world you can see differences between communities. It is not as marked in this country because the spread of different social conditions is not perhaps extreme enough to affect dental disease, nevertheless in terms of the up-take of services in this country—and there is good documentary evidence of this—there is a very great difference between the social classes, as you might expect. That is of course reflected in the fact that those not taking up the services have more untreated disease. We are still dealing with a population of which perhaps only 50 per cent seek regular dental care.

1838. That is health education.

(Professor Duckworth) Yes certainly, specifically applied to dentistry of course. It is helped I think by some of the advertisements on television. This has been getting people over the last ten years to dental practices.

(Mr Gainsford) One has to remember all dental disease is preventable. If we were in a position to control people's diets absolutely and ensure the management of their own oral hygiene, so in absolute terms a lot of dental disease would have disappeared, but we have not achieved this; we have not got the ideal diet, nor do we have the control of patients so they behave like automata.

Baroness McFarlane of Llandaff

1839. I was wondering about training for research in dentistry. I think in the medical field it has been suggested that intercalation is a very useful device for future researchers. How is that operating in the dental field?

(Mr Gainsford) I think this is one of the areas where we would look to pressure being put on the Government. We see as a major concern, the scientific base of the dental graduate's training. This does not measure up in our view to that of the science student or medical student, and the reason for this is that his basic science course is a one-year academic course which consists of virtually two terms and a half, because the last half of the third term is spent revising what he has done in the first two terms in preparation for the examination. He has in that year to get to grips with anatomy, physiology, biochemistry and special dental anatomy and, in my view, he can only absorb it, he cannot think about it, he cannot really have an opportunity to evaluate and develop a critical approach to the work he is doing. There are many of us who would argue we need to expand the dental course by two terms to five years and in that way ensure that the dental student, like the medical student, has a better scientific base to his training. He would then only need to spend a further year to intercalate the BSc. degree. Where in my school a third of the medical students intercalate their BSc., only 3 out of 57 dental students intercalate because they have to spend a further two years intercalate the S.Sc degree and the dental students at my school who do intercalate represent 40 percent of the United Kingdom dental students. They intercalate because they are in a multi-faculty environment and are encouraged to intercalate. That is only 3. So I think it is a shame. I think if we could improve the scientific base of the dental training, we would get a bigger pool of trained scientists for dental research and we will also have general dental practitioners who will be able to have a more critical approach to the work they do and take part in research. We could use the untapped pool that we have in general practice for the better evaluation of what is done.

Lord Perry of Walton

1840. Would you not think what is cheaper and almost as effective is to increase the proportion of intercalated two years?

(Mr Gainsford) They would have to do two years

[Lord Perry of Walton *Contd*]

on top of their colleagues. But, first of all, they have to get grants for that. Secondly, the number who do it then find that they have fallen behind their confreres and if they want to go into science ---

1841. Looking at cost-effectiveness, it certainly would be much cheaper, would it not, for the Government to finance the two-year intercalated period for a proportion of the 52 students rather than a whole total year for 100 percent.

(Mr Gainsford) The argument against that, of course, is whilst I can see that in cost-effectiveness terms you are probably right, what I want to do is to improve the scientific base for all dental practitioners.

1842. You think they need it?

(Mr Gainsford) Yes, I do, because I do not think they have enough of a critical approach to the work they do, the management of their materials and so on.

Baroness McFarlane of Llandaff

1843. Could I follow up a point, to some extent out of ignorance? Does every undergraduate programme in dentistry have a research method course in it?

(Mr Gainsford) I do not think it does really.

(Professor Duckworth) It may vary from school to school, but there is no well recognised slot for this. Appreciation of research does come I think, over to them, in the process of expanding their knowledge, they meet the usefulness of research in contributing to new knowledge. I think this comes through, but methods would be left to the postgraduate sphere of activity normally unless they were lucky enough to do a BSc.

Lord Adrian] There are rather few medical courses which would have a course in research methods.

Baroness McFarlane of Llandaff] But every nursing one.

Lord Adrian

1844. Good for them.

(Mr Gainsford) We have something to learn, I do think, with the present course which is so full that there would be many problems if you tried to inject something extra.

Lord Erroll of Hale

1845. I wondered if we could look at priorities in research. Given the money and resources, what would your top three projects be for the good of the Nation's mouths, if I can put it that way? Where would you go first, second and third?

(Mr Gainsford) I think of paramount importance is the problem of gum disease which afflicts a very high percentage of the population and is a major cause of tooth loss.

1846. It is not being researched at the present time?

(Mr Gainsford) It is, but I think it needs a lot more injection of activity.

1847. Your next one?

(Professor Duckworth) Can I suggest the second? Dental care of the elderly is very much more important now. In the days when most people lost their teeth by, say, the age of 50, which was true when I came to dentistry—and many by the age of 20, the dental care of the elderly amounted only to the provision of dentures. But now people are beginning to retain their teeth longer, and some teeth for life. This is altogether new and Mr Gainsford meets it as a practitioner much more than I do. Many difficult and new considerations come into managing the dentitions of older people.

1848. What about old-fashioned toothache?

(Professor Duckworth) That is rather largely a consequence of self-neglect. I do not think I would call that a matter for research.

(Mr Gainsford) We have resolved why that comes, what we are trying to do is to eliminate the cause.

1849. What about the bone decay in the mouth which, shall we say, causes loss of effective sockets?

(Mr Gainsford) That is part of the peridontal disease, it is all part of that disease process. Perhaps the third might be to do something and resolve the restorative problem. The attainment of the ideal filling material is necessary, because it has now become too costly to restore teeth with gold. The porcelain bonded to gold restorations are again very costly, and I think that we have to devise a material that is economic and will stand up to all masticatory stresses.

Baroness Lockwood

1850. How far does dental research overlap with other aspects of medical research, and what other sciences are involved?

(Mr Gainsford) Very much. I think first of all dental schools are always now part of the university campus in association with medical schools. In most places dental schools are part of the medical faculty and there is a good relationship at the clinical level, and a good relationship between the basic scientists in the medical school and the teachers in the dental school. There are certainly joint projects there. The other disciplines that really come into dentistry are the fairly obvious ones of micro-biology, biochemistry, biophysics. The physicist has a role to play particularly in our materials and their development. Molecular biology is coming much more into the field, and so on.

Chairman

1851. Have these new technologies opened up new areas of research?

(Professor Duckworth) Yes,indeed. If I can take the new molecular biology, this is coming much more to the fore in dental research. It is costly and difficult to stage. One of the problems with dental

[Chairman *Contd*]

schools is that they consist largely of multiple small departments. That is because of the teaching need, not the research need. On that basis, it is very difficult to get expensive research floated so it is much more usual to ride piggy-back on research going on in the medical field. I am not talking about fundemental molecular biology, but rather the problems that are being addressed using molecular biology techniques developed by others.

1852. Coming back to your answer to Lord Erroll's question about the elderly, that, of course, is becoming a general problem to the DHSS: a bigger and bigger proportion of the demands on the service. But is it opening up new fields of research or is it just altering the pattern of treatment and demand for treatment?

(Professor Duckworth) I would think it is research into the pattern of treatment and research into the materials used.

(Mr Gainsford) There is a lot more research going on today in terms of wear, that is, abrasion and bonding of materials.

1853. On the ground that, whereas before as long as it lasted 20 years it was all right, now you have to make it last 40 years?

(Mr Gainsford) That is right, and the other problem with age, of course, is that as people get older the gumline shrinks down, so instead of getting decay of the enamel, which is one problem, you are getting decay of the root, which is another problem. That problem of restoration is much more difficult than the procedures of yesteryear.

1854. Who does the research into new materials? How is that done?

(Mr Gainsford) There are a number of materials scientists working around the country.

1855. Within the medical schools?

(Mr Gainsford) Within the dental schools. There are some within industry. I think the major developments have probably come from the Government Chemist in relation to porcelain and glass ionemer cements, and have had some clinical dental input; that is a scientific centre with expert clinicians coming in to assist, with the schools in fact providing the clinical trials for those materials. There are in addition a number of schools which have materials scientists, one-man science-trained operators, who develop research in that particular field; Polymer chemists or scientists who have a particular interst in other areas also make a contribution. We have a scientist of reader status and I know the London Hospital has a scientist of professorial rank, but the size of the department is small. I am told scientist is seen by his scientific colleagues as an expert in his own specialty, but when they come to the dental schools they are seen as experts in science and we look to them to advise us on every aspect of science and they then finish up as being seen as generalists by their scientific colleagues.

Baroness Lockwood

1856. Could they not act on behalf of the dental school as a link with their previous department and draw on the specialties?

(Mr Gainsford) That is absolutely right, this is in fact the way forward and this is what we have at my school. This is the way schools are moving. Certainly at the London Hospital they are linked with a multi-faculty college; King's is a multi-faculty college with a large life science faculty where our people are getting locked into a "science park", which people talk about today. This is the way forward and we have to become involved and break down the barriers and ensure all staff join in, but you still have to have the particular interest and the scientist has to have a sufficient rapport with his dental clinical colleague to get the feel for the problem.

1857. How far can you follow this method in teaching? You have described the difficulties of teaching in dentistry. Is it not possible (presumably in the first year it might be possible, in subsequent years it might not) to draw on other parts of the faculties?

(Mr Gainsford) Part of the general medicine training is undertaken by medical teachers and in fact dental students go on ward rounds and attend lectures with the medical students on occasions. As far as dental courses are concerned, one has to remember one needs to have nearly a 1:1 staff student relationship because the student is working on a patient and he is doing procedures he would be doing as a general practitioner but he is doing them under close supervision. There is no experience for extracting a tooth, for example, than actually doing it. You can get a physician to supervise a group of students who are observers, you cannot do it with a group of dental students who are working on live patients. You have to have a ratio of 1:1 at that moment in time, when the dental students are undertaking a serious procedure otherwise they gain no experience and still ensure safety for the patient.

Chairman

1858. On that question of materials, from what you say it seems very important, how high a priority would you give to adequate materials research in this country or is it a worldwide business and you can rely on picking it up from the international community?

(Mr Gainsford) It is a worldwide business. If one takes for example the glass ionomer cements which bonds to hard dental tissues, the patents are held by the British Government but it is manufactured in Germany and it has a worldwide market.

1859. The patents are held by the British Government because it was developed——

(Mr Gainsford)——by the Government Chemist.

Baroness McFarlane of Llandaff

1860. Can I go on to equipment. Where do innovations on the equipment front come from? Are they largely from industry or are they surgeon-initiated?

(Mr Gainsford) In the main I would think pressure from the dental surgeons. The equipment industry is influenced by them but it also influences them. There has been research done in ergonomics in dentistry and clearly this needs the cooperation of the equipment industry by the nature of the equipment they are providing. Developments like a special electronic handpiece which ensures the drill remains parallel when you are doing certain preparations on teeth—is in fact in the prototype stage but there is no British firm to market it. The dental schools are doing this sort of work, but it often becomes a hobby for the enthusiast because he has limited time. That clinician will be expected to teach and treat patients for eight sessions, so he has only a day or a day and a half to do research, which does not provide the dedicated research you need to get things done.

Chairman

1861. Would you say that the number of dental schools in the country is about right, or would you say that the number of dental rsearch centres is about right? Are there too many of them?

(Professor Duckworth) That is a point which is very much under examination at the moment, Sir, because the UGC has its dental review working group sitting right now. They have visited all the schools with a view to a 10 per cent cut in student numbers in 1989.

1862. This is an estimate of requirement?

(Professor Duckworth) Yes, the review group is to decide where that 10 per cent shall fall. We are expecting, without any knowledge (I have no knowledge at any rate) that this will mean two schools will close. This has to be seen in the context of a still projected growth in the size of the dental profession in this country, the measures will reduce the rate of growth. This is being matched to the expected demand. Not, I hasten to add, to the expected and known need; there is a lot of dental disease out there which is not being treated.

1863. How do you differentiate between demand and need?

(Professor Duckworth) If we look at 100 people with disease in their mouths which would require treatment, perhaps only 50 per cent of them would seek treatment. This would be the demand although all would need it.

1864. If there were an energetic and well-directed health programme launched, you might find a lot of these people coming forward—even an appearance on television might have an effect?

(Professor Duckworth) The ratio of dentists to population in this country is considerably inferior from our point of view to most of the Scandinavian countries, for example. There patients have many more opportunities for treatment and there is an almost universal up-take of dental treatment across the population.

1865. This is a point which will be made during this enquiry, and I am not very clear whether the answer is to reduce the supply to the demand or to raise the need to take full advantage of what is available?

(Professor Duckworth) We would prefer the latter.

1866. What about the savings which will be made?

(Professor Duckworth) Cutting down the number of student places means a reduction in schools and perhaps a reduction in the number of teachers. We think it is very important that savings on the UGC front and on the Health Service cost component of the present dental schools should be ploughed back into dentistry, even though there may well be a smaller number of student establishments. We fear the money will be taken away from dentistry.

1867. What do you hope? That it will be used to meet the point made earlier on?

(Mr Gainsford) Absolutely.

1868. Having more support staff and not having research interrupted by patient care and teaching?

(Mr Gainsford) Increasing the pool of academic staff so they can devote more time to research. There is no reason why one should not apply performance indicators to them, that is to say if a teacher is not doing meaningful research then he should be encouraged to spend more time teaching and undertaking a clinical commitment and releasing the more research-orientated clinicians to do more research. That seems absolutely right.

1869. And it is a point you will be making?

(Mr Gainsford) Absolutely.

Lord Perry of Walton

1870. That is a job for the dean.

(Mr Gainsford) That does happen.

(Professor Duckworth) Deans have only the power of persuasion, I am afraid!

Chairman

1871. Are there any other points you would like to make to us before we close this session?

(Professor Duckworth) Could I make one point about research manpower? There is often a feeling that we have too few adequately trained experienced researchers in dentistry. I have been at it long enough to ---

1872. Scientific researchers?

(Professor Duckworth) And clinically applied too—who will contribute to the service we have to provide. I have been at it long enough to see a

[Chairman *Contd*]

marked growth in their numbers. The usual indicator that is chosen is our annual nation-wide scientific meeting. When I first came into dental research we had something like 30 to 40 papers at the meeting each year; at the last meeting it was no less than 572. This implies that there is a large number of young people with active minds, well educated people, who are able to contribute. They cannot contribute because they cannot get posts in which to teach or to research. I think that is very sad and ultimately it means that it is a loss to the Health Service.

1873. Where do they finish up?

(Professor Duckworth) A few of them will actually secure lifetime careers in dental schools. Most are diverted back to practice and there they stay. Not all of these, but a percentage, could well make very good contributions to research in this country.

1874. This is because the posts are not attractive enough as compared to ---

(Professor Duckworth) No. All the posts that are available are filled. There is no problem in filling available posts.

1875. If there were more posts would they be attractive to them or do you say they are not sufficiently well paid?

(Professor Duckworth) The present youngster is clamouring for a post because he wants to contribute.

Lord Perry of Walton

1876. The increase in publications is common to almost every speciality, and in some specialities I know I would have said if there were 72 papers only the first 30 or so should be read, or would have been published 30 years ago.

(Professor Duckworth) It is quite obvious that you cannot equate quantity and quality, but if there is more happening, the contribution of value must be greater in number.

Baroness Lockwood

1877. Do you suffer from the same problem as the other fields of seeing a brain drain of the best?

(Professor Duckworth) Not in the same way. We have a limitation because of the clinical practice component. It is not easy for our clinicians to get to the United States. It does happen but there are registration limitations, particularly in the States and Canada.

Chairman

1878. That raises just the final point. How does our dental research compare with that of similar industrialised nations, France, Germany, Sweden? I imagine there is a much higher proportion of dental practitioners but what about research?

(Professor Duckworth) I think judgements on research are terribly difficult. I would think in Europe the Scandinavian block of countries has a very high standard. I think we have a very high standard and track record within our resources, which is good. France is relatively poor. Germany, I think, has been but is catching up fast. I think there has been a language barrier there, but that has gone or is going.

1879. It has done very well with dental equipment.

(Professor Duckworth) Oh, yes, that is true.

Chairman] May I conclude this session by thanking you very much for giving us your valuable time. We appreciate it very much and have found it most helpful to us.

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HOUSE OF LORDS

SESSION 1987–88

MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

Thursday 10 December 1987

MEDICAL RESEARCH COUNCIL

Dr D A Rees, Dr M Godfrey and Mr D Noble

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THURSDAY 10 DECEMBER 1987

Present:

Erroll of Hale, L.
Flowers, L.
Hunter of Newington, L.
Kearton, L.
Lockwood, B.
Nelson of Stafford, L. (Chairman)
Perry of Walton, L.
Rea, L.
Sherfield, L.
Smith, L.

Memorandum by the Medical Research Council (MRC)

The attention of the Select Committee is drawn to the Council's Corporate Plan which describes its status and policies in the support of medical research.

(a) *How are priorities for medical research set? How do these reflect the particular needs of the National Health Service, or more generally the health needs of the nation?*

The Council has strong links with government departments (see (e)) with a responsibility for national health needs. Those engaged in medical research are also well aware of the medical problems of the community; at any one time the Council has the benefit of advice from 150 scientists and doctors who serve on its Boards, Grants Committees and on Council. This is a changing group so over the years a large proportion of senior research workers in the United Kingdom have helped Council and know its ways of working. All of these channels bring social needs to the attention of the Council.

The Council has a long history of successful response to social need ranging from activities which have resulted in the establishment of national agencies (for example, Public Health Laboratory Service, National Institute for Biological Standards and Control, National Radiological Protection Board) through to existing activities such as the Institute for Hearing Research, ante-natal diagnosis and the AIDS programme. Under the Concordat (1981) with the Health Departments the Council has increased its expenditure on health services research. A scheme of special project grants is operated to allow the Council to respond to specific research needs—particularly those identified by the Health Departments. Examples of areas covered by special project grants and health services research are given in *Appendix 1*. The Council has a long-standing involvement in clinical trials of therapeutic and diagnostic measures (for which the existence of the National Health Service provides an invaluable resource).

(b) *Is the present balance between different branches of research right? Assuming that resources are limited, what programmes might be cut back, in order to allow those which should be given a higher priority to expand? What programmes need higher priority? Would priorities change in the light of increased resources?*

The present balance of Council-supported research has been established through the exercise of choice within limited resources. Those choices have led to selectivity and concentration of resources, to the redeployment of resources between and within forms of support and to the opening and closing of MRC Units. Some examples:

MRC Units: the following Units have been opened or closed over the past ten years:

Opened

Neuroendocrinology
Molecular Haematology
Environmental Epidemiology
Mechanisms of Tumor Immunity
Cognitive Development
Dental Research
Anatomical Neuropharmacology
TB and Related Infections
Child Psychiatry
Molecular Neurobiology
Molecular Genetics

Closed

Environmental Hazards
Dental Epidemiology
Gastroenterology
Vision
Experimental Haematology
Demyelinating Diseases
Study of Environmental Factors in Physical and Mental Illness
Neuropharmacology
Metabolic Studies in Psychiatry
Reproduction and Growth
Environmental Physiology
Experimental Pathology of Skin
Clinical Genetics
Clinical Psychiatry
Developmental Psychology
Industrial Injuries and Burns
Lipid Metabolism

Laboratory Studies of Tuberculosis
Dental
Pneumoconiosis
Neurochemical Pharmacology
Tuberculosis and Chest Diseases
Biochemical Parasitology
Mammalian Genome
Trauma
Mineral Metabolism

Redeployment between schemes, selectivity and concentration: the Council has plans to redeploy resources from three-year project grants into five-year (renewable) programme grants—this will lead to a concentration of resources into fewer teams but supported at a higher level and with more continuity. Resources have already been redeployed within research training (see (h)) with research studentships being progressively clustered into centres of excellence. The Councils External Scientific Staff scheme has been reviewed and has resulted in a tightening of standards of admission. The need for industrial and collaboration have been met through the establishment of the Centre for Collaborative Research and the formation of and agreement with Celltech. The feasibility of a merged Clinical Research Centre and Royal Postgraduate Medical School on one site is being considered by Council. An Institute of Molecular Medicine is being developed in the Oxford Clinical School.

Further reductions in resources would necessitate cut-backs in both the total volume of research which can be supported and the resources allocated to individual teams. Increased resources would enlarge the total volume of research and, while the need for concentration and selectivity would remain, would enable Council to provide individual teams with much better career prospects, levels of staffing, recurrent expenses and equipment.

Section 4 of the Corporate Plan amplifies this entry.

(c) *Are priorities in medical research adapting to changing incidences of disease, changing population structures and new technology?*

The Council's support for research reflects, but is not mechanically determined by, such changes. Some examples:

changing incidence: the United Kingdom research expertise in epidemiology, molecular biology, basic virology and immunology (all areas in which the Council took a lead some years ago) has enabled the Council to mount a substantial programme of research into AIDS. In dentistry the Council's major research investment recognizes the declining incidence of dental caries and is now concentrated on periodontal disease; on the other hand the Council has reduced substantially its investment in pneumoconiosis research, while recognizing the continuing importance of other forms of occupational lung disease.

changing population: as the proportion of those in the older age group rises so the incidence of cancer, heart disease, stroke, dementia and Parkinson's disease increases. The Council has a substantial research investment in all of those areas and, for example, has recently established a new Unit that will undertake research on disorders of movement and balance; the MRC trial of treatment of high blood pressure in the elderly continues as does a major epidemiological survey of the long term medical and social consequences of strokes; the Neurosciences Board is seeking to increase the already substantial investment in research into Alzheimer's disease.

new technology: the Council has played a key role in the development and application of many technologies. The Council pioneered molecular biology and its application to medicine. In biotechnology and its application to human health care the Council has a major investment with a wide range of research in genetic and protein engineering and monoclonal antibodies. The Council has an extensive programme of research in the application of nuclear magnetic resonance (NMR), ranging from the clinical evaluation of NMR imaging, through NMR spectroscopy to high resolution NMR and the determination of the structure of biologically important molecules. Substantial investment has been made in cyclotrons for clinical evaluation of neutron therapy (in co-operation with national and local charities, health authorities and the University in Liverpool) and to study tissue function and metabolism (isotopes for positron emission tomography at Hammersmith Hospital). In information technology the Council already has a substantial investment in human interfaces research which it plans to increase in collaboration with SERC and ESRC.

(d) *How are priorities in medical research influenced by the institutions through which research is funded? How does the balance between public, commercial and charitable funding of research affect the setting of priorities by the different institutions involved?*

The approaches to research funding by the Council, the medical charities and commercial companies are significantly different although complementary.

Three characteristics of Council funding, not shared by most non-public agencies, are a large commitment to long-term research in basic science, a substantial investment in a wide range of Research Units which provide careers in medical research and the provision of a comprehensive programme of research training; and the Council is accountable to the public, through Parliament, rather than to contributors and shareholders, and is therefore expected to maintain a much broader portfolio.

The bulk of charitable funds is applied to specific projects with a short duration and those projects have to be within the remit, often closely defined (that is named diseases), of the funding agency. It is also the case that—with the main exception of the Wellcome Trust—a high proportion of charitable spending is restricted to cancer and heart disease. In those two areas Council's investment might well increase if charitable funding was not available. The Council has extensive informal links with the medical charities and knowledge of their programmes of research (see (f)). That ensures complementarity and avoids duplication. The entry under (e) identifies the range of activities undertaken by the Council in collaboration with commercial companies and the effort being made to commercialise research success. Commercial companies have made it clear to Government that basic research is seen to be a public responsibility for which no significant substitution of private funds is possible. It follows that much of their investment in research is at the applied end of the spectrum where economic benefits can be clearly identified. Thus non-public agencies build selectively upon the broad and stable base of research supported through public funding. The publications "Crisis in Research" (Office of Health Economics 1986) and "Report of the ABRC Working Party on the Private Sector funding of scientific research" (ABRC 1986) provide detailed commentary on this question.

(e) *Are the results of research adequately disseminated?*

The Council seeks to ensure that the results of research are disseminated to the scientific community, government departments, commercial companies, Parliament and the media.

scientific community: continued support by Council *requires* publication of the results of all work undertaken with its support and all research workers are required to make their findings known to the scientific community (through papers, learned societies, exchange visits and national and international conferences).

government departments: dissemination of research results to the *Health Departments* takes place in many ways, including:

Health Departments' Officers are members of the Council and the three major Research Boards

Health Departments nominate three independent scientific members to each of those three Boards

there is day-to-day interaction and exchange of information at officer level

high level meetings are held annually with the Health Departments at which Council brings to their attention research results of particular relevance

MRC health services research is jointly monitored by the Council and the Health Departments.

Special arrangements also exist with the Health and Safety Executive, the Overseas Development Administration, the Ministry of Defence and the Department of Trade and Industry.

commercial companies: the Council has a wide range of arrangements to ensure that discoveries made with public money contribute to the nation's economic performance, including:

collaborative research: MRC teams/industry
contracts from industry
co-operative research grants: university/industry
studentships: MRC teams/industry
consultancies for MRC staff
licensing of know-how

The Council has an industrial liaison group which exists to encourage the dissemination of information to commercial companies and a Centre for Collaborative Research at the National Institute for Medical Research which promotes the transfer of discoveries, ideas and techniques from MRC teams to industry.

Parliament: the Council lays an Annual Report before Parliament. This contains an account of many of the Council's activities and the results of its research. A substantial volume of information is provided in response to Parliamentary Questions (100 last year). The Chairman of Council sits in the House of Lords; a member of Council in the House of Commons.

media: the Council encourages media interest in its work and arranges conferences and briefings as matters of interest, including recently:

collaboration with industry
AIDS
clinical molecular biology
NMR in medicine
mild hypertension trial

(f) *How is unnecessary duplication of research effort avoided?*

There are three main ways of checking that research effort is not duplicated.

new applications: all applications to undertake new work are subject to peer review by external referees and by a Research Board or Grants Committee. The originality of the proposed research is always examined; for example, project grant referees are asked whether others have attempted or are attempting to answer the same questions as the applicant and, if they are, whether the work being proposed offers anything new. Referees are always selected for their expertise in the specific area of interest of the applicant and have a detailed knowledge of ongoing work.

work in progress: existing work is reviewed regularly through peer review by the Research Boards.

through an annual review of activity in all the fields for which they are responsible

by detailed examination of particular fields when the future of research in the area needs to be assessed

by regular reviews of individual MRC Research Units and programme grants.

All such reviews take account of work funded by other agencies both in the United Kingdom and abroad.

areas where other funding agencies are particularly active: the Council has a large number of advisory committees keeping particular fields of research under review. Where other funding agencies are active in the field joint committees are established. Examples include:

United Kingdom Committee on Cancer Research (Cancer Research Campaign, Imperial Cancer Research Fund, Institute of Cancer Research, Leukaemia Research Fund, Tenovus Cancer Fund, MRC)

Dental Committee (Health Departments, Science and Engineering Research Council, MRC)

Many members of Research Boards, Grants Committees and Advisory Committees also serve on awarding and advisory bodies of other agencies and on the editorial boards on the specialist journals in their field and this broadens their knowledge of non-MRC funded work.

An additional means of taking account of work in other countries is through membership of European organisations: the European Science Foundation (ESF) is an international non-governmental organisation the aim of which is to act as a centre of communication between its 48 member organisations (of which MRC is one) in 18 European countries. A Standing Committee of the ESF is the European Medical Research Councils (EMRC); it is currently chaired by Sir James Gowans. The US National Institutes of Health (NIH) sends an observer to its meetings and there exist strong links between the Council and NIH at many levels. The MRC is responsible, on behalf of the Government, for paying the United Kingdom subscriptions to the European Molecular Biology Conference, the European Molecular Biology Laboratory, and the International Agency for Research on Cancer, and for providing representation on their governing bodies. The EC supports European collaboration through its concerted action programme in medical and health research. This provides for working visits, meetings and the exchange of materials by scientists whose work is already funded by national sources.

(g) *Is research reflected as it should be in actual improvements in patient care or health education? If not, why not?*

The remit of some of Council's Units shows the way in which clinical research is geared directly to patient care.

Clinical Research Centre: wide range of clinical studies including communicable diseases, inherited metabolic diseases, psychiatry, rheumatology and sexually transmitted diseases.

Clinical Oncology and Radiotherapeutics: the integration into clinical practice of scientific studies on radiation, drugs, hyperthermia and other forms of treatment for cancer.

Epidemiology and Medical Care: the extent, causes and prevention of disease, the consequent implications for the health services and the effectiveness and costs of treatment.

Leukaemia: to improve the results of treatment of leukaemia.

Medical Sociology: the processes of linking social structure to patterns of health and illness.

Molecular Haematology: genetic disorders of haemoglobin synthesis, particularly the thalassaemias and sickle cell syndromes.

Neurological Prostheses: the development of implantable prostheses.

Radiobiology: problems of radiological protection and development of new therapeutic strategies for use in cancer treatment.

Reproductive Biology: new approaches to contraception and improved treatments for infertility, impotence and menstrual disorders.

Social Psychiatry: abnormalities of the mentally ill and retarded, new methods of treatment and evaluation of services.

The Council ensures that the results of research are widely disseminated (see (e)) and available to all those with an interest in and responsibility for health care. But it must be emphasised that the Council's responsibility is to conduct medical research and that it is for other agencies (for example Government, the National Health Service, health practitioners, the Health Education Council) to see that the results are carried through to patient care and health education. The Sub-Committee will be aware of a number of areas (including smoking, alcoholism, addiction, nutrition, preventive aspects of cardiovascular disease, *in vitro* fertilization, ante-natal diagnosis) where the direct application of research findings have been affected by political, economic and ethical issues. The resolution of such difficulties is not directly a matter for the Council and it might be argued that the inadequcy of society's response to the results of research is as important as the way in which the health needs of the nation influence what research is undertaken.

(h) *What changes in priorities in the training of medical reseachers are needed?*

The Council believes that medical research training could be improved in three main ways.

additional resources: the Council operates a number of schemes of research training awards but the resources that can be allocated are severely limited by an inadequate grant-in-aid. The Council has already altered priorities between schemes by reducing support for taught courses (one year awards leading to MSc), earmarked fellowships (three year awards for research training in selected clinical areas) and intercalalated awards (one year awards to medical and dental undergraduates leading to BSc) and increasing support for research studentships and open fellowships. But there continues to be a pressing need for more science graduates (through research studentships) and medical and dental graduates (through a variety of research fellowships). The Council has made a bid to the ABRC for substantial additional funding for such awards. The pressure for increased resources can be seen from the current annual award of only 140 research studentships from 900 applications.

intercalalated awards: the Council would wish to see more medical and dental graduates intercalating an honours BSc as part of their training. Provision for such awards is patchy with the Scottish Education Department providing awards for Scottish-domiciled students, Local Education Authorities providing support where it is a mandatory component of the course and the Council making available some awards for other students. Given that the courses are undergraduate in timing and content and have a limited research component the Council has had progressively to reduce its support (partly because of financial pressures, partly because of National Audit Office criticism). Nevertheless, the Council recognizes the educational value of the awards and the opportunity they give to young clinicians to beome involved with research in basic science departments and would wish some other body to take responsibility for and substantially increase the provison of such awards.

clinical research: the Council has emphasised the pressing need for more resources for research training for clinical staff but has also emphasised that such resources can only be effectively used if the opportunity and encouragement to undertake such training is provided. The erosion of NHS and UGC funding has lead to increased service and teaching commitments for clinicians with a corresponding reduction in the time available to them to undertake research and provide research training. Moreover the career structure for more junior clinical staff and the requirements set down for professional training do not encourage or prepare them for research. Many young clinicians now feel that an extended period in research will harm their career advancement. It is essential that this climate be changed.

(i) *Should any specific changes in organisation or funding be made in order to increase the quality, quantity or application of research?*

In evidence to the Select Committee's enquiry into Civil Research and Development the Council stated its view that the present organisation of the ABRC and of the Research Councils required no major changes. However, there was a pressing need for more resources for medical research and a change in the methods of allocation of resources within the total United Kingdom expenditure on R&D. In that context the Council generally welcomes and endorses the Select Committee's recommendations (HL 20–1) particularly;

7.3 Both research and development in the United Kingdom are underfunded. Neither government nor industry is spending enough at present levels to restore the United Kingdom's industrial position in world markets.

7.4 Departmental policies and spending on R&D must be looked at horizontally across the whole of government, in addition to the traditional vertical look by individual Departments.

7.10 The concept of the Science Budget is a good one and should be preserved.

7.12 The costs of superannuation, restructuring and international subscriptions should be separately itemised in the Science Budget, and if for any year these costs rise significantly the Science Budget should be correspondingly increased.

7.37 Civil and defence R&D budgets should normally be recorded separately. The size of each should be determined by the civil and defence programmes which they support. The Committee draw attention to the consequences of the high proportion (over 50 per cent) of the total R&D budget devoted to defence and recommended that a thorough examination of defence R&D expenditure should be an early task of the Science and Technology Assessment Office and the proposed Council for Science and Technology.

The Council has also generally welcomed the Report of the Croham Committee on the role and functions of the University Grants Committee, particularly;

28 The DES and Health Departments should urgently re-examine the mechanisms for the joint development of funding policy for medical education.

29 The academic and financial plans submitted by universities to the UGC should, in respect of medical and dental education, be the outcome of specific consultation with the relevant health authorities.

30 The present arrangements for mutual uncosted assistance ("knock for knock") between universities and the NHS should be maintained.

31 There should be a Medical Committee of the UGC, which should include assessors from the Health Departments and from the General Medical Council (and, depending on the composition and remit, from the General Dental Council). The Council should itself also take an active interest in funding of medical schools.

The Council believes that successful implementation of the recommendations contained in these two Reports could substantially improve the quality, quantity, and application of United Kingdom biomedical research.

Appendix 1

EXAMPLES OF SPECIAL PROJECT GRANTS AND HEALTH SERVICES RESEARCH

AIDS
Diabetes trials
Leukaemia trials
Prostatic cancer studies
Soft tissue sarcoma study
Gastric cancer surgical trial

Carcinoma of cervix trial
Breast cancer trials
Colorectal cancer trial
Endarterectomy trial
Transient ischaemic attack aspirin trial
Fetal movements trial
Neural tube defect trial
Cystic fibrosis detection
Neonatal screening for hypothyroidism
Chorion villus sampling trial
Congenital rubella surveillance programme
Contraception studies
Glomerulonephritis trials
Antiepileptic drug withdrawal trial
Multiple sclerosis trials
Severe head injury
Detection and treatment of psychiatric illness
Incontinence
Alcoholism
Back pain management
Deafness
Smoking

Letter from the MRC

Thank you for your letter of 29 July inviting further evidence on dental research, participation of non-scientists in clinical research and difficulties in filling post-doctoral research posts.

Our submission to the Select Committee was drafted to cover the whole range of Council's activities and did not focus particularly on dental research (although we made references to dental research in our responses to questions "c" and "f"). Professor Johnson, honorary director of our Dental Research Unit, has provided you with a list of institutions and individuals to whom you might direct enquiries concerning the state of dental research and we hope that their responses, together with our supplementary information, will provide what the Select Committee requires. But if any specific points relating to dental research do remain unresolved, and you think that we can provide information, please let us know.

On the filling of post-doctoral research posts we have a limited amount of evidence from MRC Units and from a recent small-scale survey of grant-holders. The numbers are small and there are variations by region and by discipline but the general consensus is that compared with five years ago, the number and quality of applicants responding to post-doctoral vacancies have dropped significantly, and posts remain vacant for longer periods.

As far as specialisation and rigidity of career paths are concerned the Council does have a particular role to play in providing careers for non-clinical scientists in clinical research within its own Units. The proposed merger of the Council's Clinical Research Centre and the Royal Postgraduate Medical School, together with strong basic science, on one site (referred to in our response to question "b") would provide a new National Centre for Postgraduate Education and Research which would have a key role to play in bringing together basic scientists and clinical research workers. This development could be covered in more detail when oral evidence is given to the Select Committee but if further information about the proposed development would be welcomed by the Committee in advance, we would be pleased to provide it.

(As you may know, I will be retiring from the Secretaryship of the Council at the end of September 1987 and it would not be appropriate to address any further enquiries to my successor—Dr D A Rees—at this address.)

Yours sincerely,

James Gowans

September 1987

Supplementary Memorandum by the MRC

TRAINING FELLOWSHIPS

The numbers of applications and awards over the last three years have been:

	85–86	*86–87*	*87–88*
Clinical			
Applications	85	116	105
Awards	20	29	37
Non-clinical			
Applications	49	29	23
Awards	12	13	8
Total			
Applications	134	145	128
Awards	32	42	45

Training fellowships enable medical and dental graduates at any stage in their career up to and including Senior Registrar, Lecturer or equivalent levels and science graduates with research experience up to Lecturer or equivalent level to gain specialized or further research training in the biomedical field within the United Kingdom. Fellows receive a stipend, with increments, based on an appropriate point on the current NHS or university pay scales:

*Clinical** *from 1.4.87*	*Non-Clinical** *from 1.3.88*
18,150	16,975
17,390	16,345
16,630	15,720
15,870	15,105
15,110	14,500
14,350	13,870
13,720	13,365
13,090	12,760
12,460	12,150
11,720	11,680
10,980	11,070
9,930	10,460
9,370	9,865
8,810	9,260

* plus London allowance where appropriate.

A research training support grant of £1,000 p.a. is paid direct to the host institution.

POSTGRADUATE STUDENTSHIPS

The levels of stipends and allowances paid to postgraduate students are agreed annually by the Department of Education and Science and are common to all Research Councils. Recommended tuition fee levels are also promulgated by the Department and the Research Councils do not make payments above those levels. The level of the research training support grant payable annually to the host institution is agreed by the Treasury. The level of stipends and allowances has been linked, for many years, with the level payable to undergraduates—increased to take into account such factors as the longer time spent at the University each year (studentships are for whole-time training) and additional costs (such as thesis preparation).

The total package available to postgraduate students is:

Maintenance grant:	Basic rates of payment for a full year are:	*London*	*Elsewhere*
	Students living in college, hostel, lodgings or marital home	£3,492	£2,859
	Students living in the parental home (or in the case of married students the parental home of either spouse)	£2,075	£2,075

In addition to these basic rates allowances may be paid in respect of:

Postgraduate employment experience: £441–£1,427

Dependants: £254–£1,284

Disabled students: £700

Travel: where costs exceed £52 p.a.

Income from awards is exempt from income tax; Council meet the cost of University and College fees; the Institution receives £400 p.a. research training support grants for each student; unlike undergraduate awards these awards are not subject to a parental contribution.

HEALTH SERVICES RESEARCH

BACKGROUND

There is no clear dividing line between biomedical research, which is the Council's primary concern, and health services research and for many years the Council has supported work falling within the health services research field—for example in MRC Units undertaking research in medical sociology, social psychiatry and epidemiology and medical care. Health services research itself is not homogeneous and there is a wide spectrum of activity ranging from problems arising in clinical practice where controlled trials are necessary to measure the benefits and drawbacks of therapeutic innovations through to management and organisation studies within the National Health Service. The Council is one of many funding agencies involved in health services research; the Department of Health and Social Security continue to be the largest source of health services research funding in England and Wales, the Scottish Home and Health Department fund work in Scotland and the Economic and Social Research Council and medical research charities and trusts provide substantial support for such work.

THE 1981 CONCORDAT

The Council's *increased* involvement in health services research stems from an agreement reached in 1980 under which funds transferred to the Health Departments from the DES Science Vote (and thus from the Council) in 1972, to enable the Departments to commission *biochemical* research (the "Rothschild arrangements"), were returned to the Science Vote (and thus to the Council). As part of the formal Concordat with the Health Departments, setting out the conditions attached to the return of those funds, it was agreed that with effect from April 1981 the Council would engage in health services research to a greater extent, establishing a health services research base made up of four components:

(i) existing MRC work

(ii) a phased introduction (over five years) of new work funded from the Council's grant-in-aid so that by 1985–86 MRC expenditure in this area will have increased by up to £2m per annum (at 1980 prices)

(iii) new work funded from the DHSS Vote

(iv) specific commissions placed by DHSS and funded from the DHSS Vote.

Writing about the Concordat in a formal communication to the British Medical Journal the Secretary of the Council and the Chief Scientist DHSS said:

> "None of the transferred money which passed from the DES science budget to the DHSS after 1972 was used to support the department's programme of health and personal social services research. The programme, together with the department's research in the fields of social security, supplies, NHS computing and building and engineering research and development, has been funded from separate financial votes. It is important to emphasise that the DHSS is retaining sole control of these funds after 1 April next, and that no part of them is being passed to the Medical Research Council by way of the DES science budget. Thus the funds for the support of health and personal social services research—amounting to about £11m a year at 1980 prices—will remain the responsibility of the DHSS after 1 April 1981.
>
> As part of the new arrangements, however, the Medical Research Council has undertaken, following the return of the commissioning funds, to increase its own involvement in the health services research, a field in which a number of its units are already undertaking distinguished work—for example, in medical sociology, social psychiatry and epidemiology and medical care. Over the course of the next five years, as opportunities arise, the Medical Research Council will increase, from its own DES science budget, its spending on health services research by up to £2m a year (at 1980 prices). *This modest increase in expenditure will be employed to build on the Council's existing competence in health services research, partly in existing or new MRC units and partly by grants to university departments. Within these practical and financial limits the*

> *aim of the Council will be to support more work of high quality in health services research; the council is neither required, nor does it intend to be comprehensive in its coverage."*

In announcing the new arrangements to the research community it was made clear that the Council's existing involvement in health services research has developed from its primary concern with biomedical research and that in enlarging the portfolio its preference would be to develop in and from those areas of existing expertise.

The 1986 Concordat

The Concordat was reviewed in 1986 and was considered by the Departments and the Council to have worked well. The Concordat was renewed with the main elements remaining as before, the arrangement for health services research now stating that:

> "The financial and other arrangements for Health Services Research which have come into being have contributed to the harmonious and closer relationship that both MRC and the Departments wish to maintain and develop.
>
> The Medical Research Council will continue to engage in Health Services Research and will promote the expansion of the capacity for that research. In particular, the following arrangements will continue:
>
> (a) the Council will aim to spend over the years ahead, £2.8 million at 1986 prices on Health Services Research in any year, in accordance with objectives identified by the HDs and agreed with the Council.
>
> (b) MRC will endeavour to expand the Health Services Research base within its establishments and university Departments, to undertake studies of a satisfactory scientific quality that meet Departmental needs. In this way new and existing Health Services Research work will combine to provide an increased Health Services Research capacity."

The Health Services Research Panel

At its meeting in May 1981 the Council agreed that applications for support in health services research should be fed into the existing Boards' and Grants Committees' machinery as appropriate but that, in addition, a Health Services Research Panel should be set up to assist with the processing of these applications. The decision to award or decline the applications would still be with the Board or Grants Committee.

The Panel's terms of reference were

(i) to advise the Boards on health services research applications, and on policy towards work in this area;

(ii) to report to Council annually.

Over the next few years the Panel became increasingly concerned at its inability actively to encourage research in the health services research field and to improve training opportunities and eventually recommended to council that it should have an executive function with authority to award grants and to promote the development of health services research. In discussing that recommendation Council minuted:

> "The Council agreed that the capacity to develop and encourage good health services research was extremely important to the efficient operation of the National Health Service. With the introduction of new management systems the need for such research has become even more pressing. The field was one of national importance. Furthermore, under the Concordat between the MRC and the Health Departments, the Council was committed to develop and expand its existing work in the area alongside the DHSS, who would continue to provide the lead. Work considered by the Panel was primarily biomedically orientated though an important contribution had been made by social scientists continuing the Council's long and distinguished reputation for its work, for example, in the field of medical sociology. The Council had no doubt of the need to continue to develop health services research in collaboration with other Research Councils were appropriate.
>
> The Council noted that there had been particular problems in the development of health services research, which was not an academic discipline in its own right and required the collaboration of workers with a range of expertise: the academic base was small; there were problems of leadership as some of the senior and experienced workers had retired or were approaching retirement and an insufficient number of young workers of high calibre had been

> recruited to the field; the quality of the proposals submitted to the Council was frequently poor. The HSR Panel had made some progress towards overcoming these difficulties and the Council was on target to meet by 1985–86 the increase in expenditure (£2.0 million at 1980 prices) agreed as part of the Concordat, but further work was needed to stimulate the field. In particular the academic base needed to be strengthened and the over-riding need was to provide suitable training for a new cadre of workers from relevant biochemical and social science disciplines. The HSR Panel had strongly recommended that it should play a more active and interventionisis role to develop this academic base with the long-term aim of improving the quality of the research proposals which could then compete on more equal terms with those in biomedical research.
>
> There was little doubt that the most effective way to develop HSR and meet the commitments under the Concordat would be to establish a single group of scientific advisers and administrators for this task.
>
> The Council therefore agreed in principle that the HSR Panel should be reconstituted for an experimental period of three years. It should have limited powers to commit funds under rules similar to those which applied to Grants Committees; major proposals would, as now, be referred to a Research Board for a decision with the Panel's advice. The new Panel should also have the responsibility, in consultation with the Training and Manpower Committee, of fostering training in HSR and should take an active róle in stimulating and developing the field."

THE HEALTH SERVICES RESEARCH COMMITTEE

The Health Services Research Panel was reconstituted in 1986, becoming the Health Services Research Committee with terms of reference:

(i) To foster high quality health services research (in collaboration with the Health Departments, and with the ESRC as appropriate) in areas of interest to the MRC.

(ii) To advise Council and Boards on policy relating to health services research, and on any matters that are referred to the Committee.

(iii) To assess project and special project grant applications in the field of health services research and make awards up to the limits of the Committee's budget; and to advise to the appropriate Board or Council on other applications for grants and on proposals arising from Council units or institutes.

(iv) To consider how the problems of training in health services research might be solved; and to advise the Training and Manpower Committee (T&MC) accordingly.

(v) To assess reports of MRC funded work with a significant health services research content.

(vi) To report annually to the three main Boards, and to Council at the end of the 3 year experimental period.

EXPENDITURE AND THE NATURE OF RESEARCH

Under the 1981 and 1986 Concordats the Council undertook to maintain, and if possible expend its existing health services research base and to introduce new work by agreement with the Health Departments—aiming to spend £2.8 million annually (at 1986 prices) on such new work. Both commitments have been met, the expenditure in 1986–87 being:

Existing research base	£5,853,000
New work	£3,146,000

The Health Services Research Committee has adopted the following definition of health services research:

> "The identification of the health care needs of communities, and the study of the provision and use of health services"

The definition identifies two main elements of HSR:

Firstly the "*need*" for health care within communities, which is independent of the actual health services provided, but acts as a necessary base for their planning and provision. Need itself is largely and epidemiological concept based on the estimation of mortality and morbidity with an essential sociological component.

Secondly "the study of the *provision and use*" of health services involves the vital element of evaluation, including the concepts of outcome (particularly benefits) and costs. The disciplines involved in this component of HSR include epidemiology, the social sciences, management science, political science, statistics, computing, operational research, psychology and economics.

Examples of projects included among the portfolio of new work:

Economic and health services consequences of smoking.

Value of care attendants after hospital discharge of elderly patients.

Assessment and rehabilitation of the profoundly deaf.

Studies to reduce the incidence of bacterial complications in burns and methods to improve healing.

The economic evaluation of the clinical application of NMR imaging.

Detection and treatment of psychiatric illness in a general medical setting.

Incidence of chronic end renal failure and patterns of referral for treatment.

Examination of witnesses

Dr R A REES, Secretary, Dr M GODFREY, Second Secretary and Mr D NOBLE, Administrative Secretary, Medical Research Council, called in and examined.

Chairman

1880. Good afternoon. Dr Rees, may I welcome you to our Committee this afternoon and may I welcome you in your new appointment. You come to us, I do not say fresh, fresh to the appointment, but not fresh to the subject. We very much look forward to hearing from you and thank you for giving up you time to join us this afternoon. You are aware, of course, that we are approaching the end of our enquiry and we thought it was very appropriate to be meeting with you at this stage, having had the opportunity to hear from many other witnesses over the previous months. We have your paper for which I thank you very much. It was a very helpful background. Perhaps I could ask you if you would wish to add anything to it?

(Dr Rees) No, I do not think I do.

1881. I am not quite sure whether you are the author of that paper or whether it was your predecessor.

(Dr Rees) It was my predecessor.

1882. Perhaps, if I may start the questioning to set the scene a bit, it has recently been announced that there is a 20 per cent reduction in project grant funding this year. That seems to me to be quite a serious matter in view of the many pleas we have had from so many people that the cuts are being very injurious to their work. Would you like to perhaps say something about that as a start?

(Dr Rees) It is indeed a very serious matter. It has come about because, as you know, our pattern of research support falls broadly under three headings. One is direct support in units and institutes; another is long-term programme grants, five-year grants, with an implied commitment for continuation if the research delivers the goods which are promised and the third are the project grants which are one-off research applications.

1883. Short-term?

(Dr Rees) Short-term, for three years usually. We happen to have a very heavy demand this year for historical reasons in the programme grant area and as a tactical measure, we decided that we cannot make cuts under those headings to which we have made long-term strategic commitments and so we simply have to make cuts in the short-term project area.

1884. It all falls on that sector, as you might say?

(Dr Rees) Not all, but we are having to make sensible economies or what economies are feasible without being seriously disruptive to our long-term intentions under the other two headings, but the burden, yes, falls on the project grant area. I would add that there are other considerations as well, such as our having to give a very high priority to fund AIDS research. We have had extra allocations for a directed programme in AIDS from the Government over and above our grant in aid, but as the epidemic spreads and as we know more about it, we find that there is extra research to be done, additional to that for which we originally planned, for example, in AIDS-related dementia which is now apparent as a serious problem affecting between one-third and a half of AIDS sufferers and also there is more we need to know about the mechanisms of transmission than we originally catered for and we simply have to do this. Up until now we have been unsuccessful in raising additional money, so we have to take it out of our grant in aid and, of course, that means that other activities, like the project grants, have to suffer.

1885. The terms of reference for our enquiry are, as you know, "Are priorities in medical research related to the needs of the National Health Service?" In what way is your allocation of funds related to the needs of the National Health Service?

(Dr Rees) We do give special priority to the area which we call "Health Services Research".

[Chairman *Contd*]

1886. Perhaps I did not make myself clear. I am thinking about the amount of money you have available—how is that related to the needs of the National Health Service? You get your money from DES?

(Dr Rees) That is correct.

1887. And DES get if from the Treasury, but you are serving the needs of the National Health Service—how is that money you are getting related to the needs of the National Health Service?

(Dr Rees) Except in the area of Health Services Research we do not set ourselves any financial targets to spend to serve a particular set of interests, although we may have to do that in the future as the squeeze gets tighter and we have to think very carefully how to balance our different priorities. We are in constant conversation with our colleagues in the DHSS. There are assessors on the Council and on the Boards and we become aware of their needs and try to take them into account, but, of course, I think it is very important to stress that the best thing we can do for the Health Service is not necessarily to concentrate on the needs they perceive now, but rather to do some of that combined with longer-term work which will prepare us and put us in a better position to cater for their needs in the future.

1888. I think that is a very important point which has been brought out by a number of witnesses. On the one hand, shall we say, the pressure of immediate needs for clinical research, AIDS and so forth, could be injurious to the long-term scientific base and equally you could say that the long-term scientific base must be protected and you find within limited funds you are inadequately serving the immediate needs of the day?

(Dr Rees) That is right. The polarisation is not quite as sharp as that. We have been talking a lot about priorities within the Council lately and some of us have found it helpful to think in terms of an applications timescale of research. There is research which seems to be important which will lead to new understanding, which will be relevant to health care, but you do not yet see how it is to be applied to specific problems, and then there is the sharp end which is very problem-orientated and problem-led. But there is also an important area in the middle where science is making break-throughs for which you can very easily see where the application is going to be made as in the development and application of various imaging technologies, for example, for the diagnosis of disease. Another example of new science which will be useful is that in the analysis of the human genome to get to the basis of genetically-inherited diseases or inherited pre-dispositions to various diseases and one can see how that would be useful. We have to put a lot of effort into that middle area.

Lord Hunter of Newington

1889. Taking the more practical end, the equivalent in the Health Service of product development in industry and how that area fitted or how the glove fitted to the Health Service needs, you would feel would be clinical research on something on which you would not spend money?

(Dr Rees) Yes.

1890. Particularly when you are short of money?

(Dr Rees) Yes. I think as you get nearer to product development, or close to the practical situation where the science content becoming rather low and is best done within the DHSS. So, for example, how to organise an out-patients department or an ambulance service they should do themselves.

Lord Flowers

1891. And do they?

(Dr Rees) Yes, I imagine so. You will have to ask someone else about that.

Lord Hunter of Newington

1892. Does it throw back to you new problems which you have not foreseen?

(Dr Rees) I was going to say that something like organising cancer screening might have a higher science content and, therefore, it would be appropriate for us to take up. This is an area of constant discussion. AIDS is another example where we would be in close discussion with the DHSS. We would not always agree about priorities but we try and reach as good a mutual understanding as possible.

Lord Flowers

1893. Could I keep on this particular line of questioning because I think it has departed a bit from the question you initially asked, which I understood to mean how is the total budget of the MRC related to the perceived needs of the Health Service? Perhaps one could try to tackle it in government machinery terms: we are led to suppose that with ABRC and ACOST comparisons of priorities are somehow made and one would imagine that the DHSS comes out and starts thumping the table in favour of medical research versus something else, agricultural research or whatever, and as a result your budget is bigger than it would otherwise have been.

(Dr Rees) That may be so.

1894. In that sense, what you get would be related to the perceived needs of the National Health Service. One has to ask, does that process take place? Is it useful to you and do the people concerned when they do it have an analytical apparatus for being able to judge their own arguments?

(Dr Rees) Perhaps one of my colleagues would like to come in on this, but the DHSS is represented on the ABRC, for example. I think the Chief Scientist is also present on ACOST. So certainly they have an ability to pipe up in our favour if they

[Lord Flowers *Contd*]

want to. But how decisive their input is I have no idea.

Baroness Lockwood

1895. What about the MRC itself? Before it even goes to ABRC, are you in a position to say the needs of the MRC, because of the perceived needs of the Health Service, are going to be X amount and, therefore, this is the bid that we must put in for? Do you look at it in those terms?

(Dr Rees) We do not sector out in that particular way, no.

1896. You mean you do not bring together?

(Dr Rees) We do bring together but we describe the total programme and then justify individual projects in the terms that are appropriate and some of them will be justified in——

Chairman

1897. Could I be clear about that? You have your programme and that costs X million, shall we say. That goes up somewhere—I am not quite clear where—and they say you cannot have X million, only X−10 or X−20?

(Dr Rees) Perhaps I might say that the division of the Science Vote, if we are taking it from that stage onwards rather than what determines the size of the Science Vote, is decided by discussion between the independent members of the ABRC in our absence. It is quite clear to us in what terms we should attempt to justify our bid. For example, this Government is interested in research which is relevant to boosting the national economy, inventions, industrial products and processes and so on. We have been strongly making the case that relevance to the Health Service is a criterion that is at least equally valid but it is not clear to us that that has been accepted. Have I finally got to the point?

1898. Yes. That would be decided by the ABRC, would it?

(Mr Noble) I hesitate to be tedious about the step by step process that occurs, Lord Chairman, but in the construction of the Medical Research Council's own bid you will find in it references to particular problems which the MRC regards as affecting the Health Service or of great concern to the Health Service. AIDS would be a case in point. Alzheimer's disease is another case in point and these will probably be referred to by the Council in submitting its bid to the Advisory Board for the Research Councils. But beyond that forum, where the MRC gets redoubtable support from the Chief Scientists of the Health Departments in our advocacy of our needs, we go on to the amalgamation of the Science Budget with the total Vote for Education and Science, and then of course beyond that the debate disappears into the decision-making processes of government. The MRC, of course, has no particular input at that level and when the total of the Department of Education and Science Vote is eventually determined the process occurs in reverse and at some stage the available amount of money for science is determined and within that the Advisory Board for the Research councils again sub-divides that money and gives us our share. Now, again at these later stages we do have a chance to argue our case and again we would obviously lay some stress on the relevance of some parts of our programme to problems within the Health Service. But, as I say, at the crucial decision-making points the Medical Research Council has no access to the debate.

1899. When it becomes, you might say, a lobbying process, what I wanted to bring out clearly is do you do the lobbying for medical research or does the DHSS do the lobbying for medical research, assuming, shall we say, what is allocated is adequate, which seems to be generally to be the position.

(Dr Rees) We do it, but they are involved in the process.

Lord Flowers

1900. But we have always been told that the reason that medical research has had to be considered separately from other scientific and technological research is, for instance, that the Medical Research Council could never be absorbed in a general research council because of the relevance of what you do to the Health Service and to patients. But now you are saying really what you do is justified on your own internal criteria rather than on the grounds of its usefulness to the Health Service?

(Dr Rees) I do not know what you have been told previously. I think probably Dr Godfrey wants to come in.

1901. Over a long period of time.

(Dr Rees) Yes, I am sure, but certainly an important factor which I hope has been put forward is the importance of our involvement with the clinical community and with the practice of the Health Service which is involvement with the Health Service at a different level, not a policy level. We cannot do our job without that. Those are a set of contacts which are not necessary to the other Research Councils.

Chairman

1902. If these cutbacks are going to fall largely on our funded project grants, which is mainly in the clinical field, this is going to be quite serious, is it not, because it is going to undermine the very important clinical aspect?

(Dr Rees) These project grants are not only in the clinical field. We do have other forms of support. Clinical work is supported by programme grants and on a direct side as well. But it is causing particular dismay in the clinical community: for peculiar organisational reasons of their own this type of support is especially important to them. I would stress it is a tactical measure only because we have been caught short this year and I think in the

[Chairman *Contd*]

future we must develop a more strategic financial planning mechanism that allows us to make savings under the other headings as well.

1903. But you had no success in getting some additional allocation of funds to relieve you of that difficulty?

(Dr Rees) No.

(Dr Godfrey) The other point in relation to project grants, if I may say so, if it is one area where there is fortunately an alternative source of funding. As you know, the medical research charities are very buoyant and they tend to concentrate their support in two areas. The first is short-term support and a second is very much on disease-oriented research, so there is an ameliorating factor there.

1904. I am not sure whether that is a very comfortable position where one is dependent merely on those alternative sources; it can go too far, can it not?

(Dr Godfrey) Indeed.

Lord Flowers

1905. Can the Government not take note of these alternative charities in determining what the MRC budget was? Would it be more if there was not some support from medical research charities?

(Dr Rees) You are asking me to guess again. My guess would be that up to now that has not been an important factor. It certainly has been suggested by other research councils who would rather the money in their direction than ours that this should be taken into consideration, but as far as I know it has not!

Lord Hunter of Newington

1906. You have meetings with these charities regularly, do you?

(Dr Rees) We will be having, yes, and we have a number of joint activities which I can illustrate if you are interested. Up until now the relationships have been on a one-off basis and, therefore, largely with the major charities. But now they have amalgamated themselves into the Association of Medical Charities and are developing mechanisms for speaking with one voice, for following common policies, for giving us a focus for developing joint policies with them. I am very optimistic that these meetings and contacts will be more fruitful in the future.

Baroness Lockwood

1907. Whilst such meetings are, I am sure, very useful in the sense that they can prevent the MRC from duplicating the research efforts of the charities, is the opposite a fact? In other words, do the charities not determine their own priorities and very often their priorities are determined by the scope of the charity and, therefore, they are set and in that case I am not quite sure how the point made by Dr Godfrey really holds because if they are circumscribed by their own charities and you have a shortfall in some areas of project funding, they cannot quickly step in unless it is within their own terms of reference and if that was so they could have already taken it up?

(Dr Rees) Can I answer the first part of the question by saying that I think it might seem, because we have global terms of reference and the charities have local terms of reference, therefore there is a high degree of determinism built in, but in fact it is not like that. For example, with the Imperial Cancer Research Fund, we have realised there are common interests for them to follow their mission and us to follow ours. To enable us to get together in the area of molecular medicine, for example, they have funded a floor in the Institute of Medicines so their facilities will be side-by-side with ours. In a sense we are targeting separately, but reinforcing each other and helping to fund a common infrastructure and hopefully being a bit more economical.

Chairman

1908. The same technology is having a wide application?

(Dr Rees) Yes, and similarly we are talking of imaging in the same terms and in the area of human genome as well. There have been joint enterprises with the British Heart Foundation, with the Leukaemia Research Foundation and the Cancer Research Campaign where we have similar sorts of associations. I think what Dr Godfrey was referring to was that these initiatives have a rather strategic kind of nature where we are all looking ahead, trying to go somewhere in the future and we realise by collaborating we can each be more successful. I think Dr Godfrey's reply was in relation to project grants which are opportunistic and tactical; they are not so planned in terms of direction, they are more responsive. If somebody in a university had a good idea for a good short term project we would look at it, and if we agreed we would try to fund him. That is an area in which some of the charities, particularly Wellcome, come close to a common mode of operation with ourselves, and therefore, they are able, we hope, to pick up some of the shortfall.

1909. Yes, but is not Wellcome about the only charity that has very wide terms of reference? Imperial Cancer has restricted terms of reference.

(Dr Rees) Yes.

1910. It is so large that we accept that it can run in parallel with your own research projects, but some of the other smaller charities who have very defined objectives would not find it so easy to pick up some of the projects that you are unable to fund and, therefore, because of lack of funding and because of the scope covered by the charities, some of your priorities may be missed?

(Dr Rees) I do not know why I am sitting here trying to argue life is not really as bad for us as you are saying! But just for the sake of honesty, it is the

[Chairman *Contd*]

case in much medical research nowadays, whether it is heart disease or cancer or infections or whatever, that one is relating the growth areas of biology to particular medical interests, so that in following their restricted disease orientation the charities also have an interest in the development of areas of science which might relate to their disease but will also relate to the study of other diseases. It is work of that type that they can pick up. I agree with you, there are others. The Heart Foundation is not going to pick up research on AIDS, for example. We have to pick that up, but——

1911. This leads on, I think, to another question we would like to explore with you. These complexities to which you refer do, of course, call for substantially well founded laboratories, multidisciplinary teams etc., and considerable concern has been expressed to us about the future of the well-found laboratory in view of the cuts to the UGC. Would you like to express your views on that?

(Dr Rees) I think for the present we have to operate as if the dual support system works, even if it does not actually work. But there are some ameliorating factors. Our increasing tendency to concentrate on, and to fund, successful centres of excellence, as it were, does coincide with what at least some of the universities are doing in using their UGC derived funding, also to fund those groups which are most active and most productive within the particular university. So the two concentration processes are to an extent going in parallel. That does create the problem that many people in the universities are so inadequately supported under the dual support system that they are not capable of putting forward good proposals to us. They are not funded to the level where they can do the necessary feasibility work, where they can get staff, where they can get together a proposal. I am sure there is lots of potential within the university system which is just slipping away for that reason.

1912. Is that because they just have not got the people there or because they have not got funds at their disposal to do the necessary preliminary work?

(Dr Rees) Yes. We now have a process of allocating research studentships, for example, which is on the basis of the standing of the department, so they will not be getting research students, at least from us. If they have not been very active in research and been unable to attract grants to buy apparatus, then the equipment is not for them to do their feasibility studies. Very often I think there are other stresses and strains in university life these days which maybe university people ought to speak to you about—I have not been part of the universities now for twenty years—which also make it difficult for them to get down to anything.

1913. From your point of view as responsible for maintaining an adequate research base for the health of the nation, you must view this with considerable concern.

(Dr Rees) Very considerable concern and, almost more important than the effect on the research base—although I do not know whether anything could be more important than that—is the impact on training and throughput of good people. If we get an increased budget in five years time—I do not know—there may be no people to develop new research.

1914. How would you like to see that rectified?

(Dr Rees) I think certain changes do have to occur in the university sector, but it is not really a part of my job description, to analyse that in detail. But I think the university sector does have to get better at managing research and training type activities. I think that ought to happen and we ought to have an adequate budget to exploit their potential.

Lord Flowers

1915. Could I press this a little bit? Let us not argue about universities needing to improve their management potential, because we all need to do that. You do too, if I may say so. But setting that on one side, at the end of the day I think we would all agree that we need some more money in the system. We will find some by increased efficiency perhaps, but we still need more if we are to restore medical research to some sort of compatibility basis with other countries.

(Dr Rees) Yes.

Lord Flowers] How much?

Lord Perry of Walton

1916. Fifty million?

(Dr Rees) Something like that. There are particular problems in medical research at the clinical end which need rather serious attention and need rather major developments. The basic research infrastructure which is associated with clinical research does need substantial strengthening in the modern areas of science, molecular and cell biology and neurobiology and so on. So the question "how much more money?" has to be answered in relation to what we want to do. If all you want to do is to take the pain out of the present system and fund all good research projects that come along, that is, in a responsive mode, then probably, Mr Noble, it is of the order of tens of millions or a couple of tens of millions of pounds.

(Mr Noble) £15 million to £20 million for ourselves.

(Dr Rees) That would solve that particular problem, but if you want to do a real job and build subcentres for excellence in bio-medical research juxtaposed with clinical teaching and practice in research, then one would need more.

Chairman

1917. Within the academic system?

(Dr Rees) Yes.

Lord Perry of Walton

1918. Dr Rees, you mentioned four different areas which are all short of money. Basically we talked about training needs, NHS research, project research and clinical research. Since we are asked to look at priorities, which of these would you put as the first essential if the money that was made available was only a quarter of what is needed in all, or less than is needed in all?

(Dr Rees) Unfortunately they are all interactive. I have got here, for example, a list of the research that we are doing on one particular important disease, which has important consequences for the Health Service and important economic and social consequences. That is Alzhiemer's disease. We are supporting a whole range of activities for that particular disease, ranging all the way from molecular biology of the underlying mechanism up to clinical endocrinology to psychiatric studies, diagnosis by biochemical diagnosis. To try to make a decision on priorities simply on the basis of whether it is clinical or fundamental is just nonsense. One has to look at the particular project and ask where are you most likely to make a difference, and it may be at the clinical end or it may be at some other end.

1919. But you are comparing almost like with like in the sense that these are all things that come to the MRC. The training budgets and the NHS research would be obtained from different sources and, therefore, you are not called upon to make that decision, but could you comment on which you think nationally is the more urgent?

(Dr Rees) The simple answer I think would be training, but training is inseparable from morale. You are not going to get people to train unless there is a belief that there is an activity there that is worth being trained for.

Chairman

1920. Is this training of researchers, training of medical researchers, training of science researchers?

(Dr Rees) Yes, I think it is. There are peculiar problems around the area of medical research but this is a general one which goes across the board.

Lord Kearton

1921. Dr Rees, you have given a pretty gloomy picture of the situation now. It will be even gloomier, one fears, in five years from now. Do the terms of your employment preclude you from going public on this? The Presidents of the three Royal Colleges have just made a great public statement. Do the terms of your employment preclude you from joining in, writing to the Times, the Independent and what have you, saying "Can I add my weight?"

(Dr Rees) I shall be giving a press conference next week and saying it and there are various journalists and Radio 4 chasing me for interview in advance of that press conference. I shall be saying it. I do not know whether anybody is going to listen.

Lord Kearton] It depends how loud you shout.

Chairman

1922. A lot of people are listening to noise coming out of the Health Service at the present time.

(Dr Rees) Yes.

Lord Erroll of Hale

1923. I am going to put a beautifully simple question. If you had £5 million out of the wind, free of all restraint, what would you spend it on?

(Dr Rees) I think we have to do more AIDS research than we currently can find the money to do. It is going short term again, but it is a very important problem.

1924. If it is so important, surely the Government ought to hand out another £5 million.

(Dr Rees) Yes, they should.

1925. Have you pressed them hard for it?

(Dr Rees) Yes.

1926. It is the greatest epidemic of modern times and you say you need another £5 million. Can you not just get it from them?

(Dr Rees) No.

1927. Have you tried hard enough?

(Dr Rees) Well, you have to be cunning as well as energetic.

1928. That is accepted—round this table there are many cunning gentlemen.

(Dr Rees) We have used all the means at our disposal so far and are still trying to think of new ways of approaching it. The other thing I would use the money for is increasing the value of postgraduate research studentships to make a dent on this training problem.

(Mr Noble) Perhaps I could add that we are fortunate enough to have a member of your House as our Chairman.

Chairman

1929. Just picking up on Lord Erroll's question, why do you consider you need more money on AIDS, bearing in mind the enormous amount that has been spent in the United States the results of which will be available to you, I presume?

(Dr Rees) I think epidemiology and the spread of the disease, and particularly the spread of the particular strains in this country, the way these strains are altering. We really need to know what is happening here. It is not, with something as serious as this safe to extrapolate from results in other countries. We do have a scientific community that can make a particularly distinctive contribution to this area over and above that which exists in the United States. Then there is the usual argument, of

[Chairman *Contd*]

course: to apply any results you need to have a baseline of expertise and the areas I have mentioned in which we would invest this money are areas in which we are not doing anything at the present time.

Lord Perry of Walton

1930. Good health is a problem just as serious as AIDS, not epidemiologically but in general terms. How much is the decision to spend the money coloured by the fact that you would be subject to enormous public as well as political pressure if you did not.

(Dr Rees) That happens from time to time. There are areas that we have increased in our investment in because of pressure of that type. I think it would not be right for me to say.

1931. That is interesting because one of the things we found during our visit to the United States was that their members of Congress take a keen interest in what they are spending on medical research, to the extent of upping their budgets rather than reducing their budgets, so we were told—rather different from the situation here.

(Dr Rees) Yes.

Baroness Lockwood

1932. Lord Chairman, I wonder if enough has been said about it in view of the fact that there is so much concern about AIDS. Would it not have been possible for you to get the additional funding that you needed? You told us earlier, for example, you had had to cut some of your projects in order to fund additional work on AIDS research. I think most of us round this table were under the impression that the work that is being done on AIDS was done under special and additional up-funding and the fact that you had to cut back on other areas of research in order to fulfil what you regard as obligations on research funding is very disturbing.

(Dr Rees) Yes. I would be glad to explain that. We have in fact had two special allocations of money for AIDS research. The first was a relatively small one, £1 million a year for three years. That was really, you may remember, when AIDS was coming. The Chief Medical Officer of the DHSS was very quick to see the possible implications for this country and very keen that we should be geared up so that when it came—there was no doubt it was going to come—we should be in a position to do epidemiological studies, to monitor the spread of the disease and hopefully to forecast it and so representation were made for extra money for us to set ourselves up to do that, and that was done. Then as the epidemic got more serious and no treatment was in sight, the Government set up, the Whitelaw Committee before the General Election in order to decide what should be done, what policies were necessary in public health information and advertising and so on and in research in relation to this alarming epidemic. We made representations to that Committee that we should have a crash-directed programme of the type MRC had never had before. It was problem orientated to developing a vaccine which meant making all the individual molecular components of the virus, developing animal models, studying the way in which the immune system relates to the components of the virus and doing some empirical work to see what would work. In parallel with that, we're planning a programme to study the detailed structure of the virus components to try and find clues for the design of drugs. Those were programmes to perform specific tasks and we received £14½million over three years in order to do that programme. As the epidemic still continues to progress, we are aware that there are yet further aspects which are not covered by the needs anticipated previously, one example is AIDS-related dementia. About one-third of all AIDS patients develop this which is related in symptons to Alzheimer's disease, such as loss of memory. This is very distressing to them and their families and makes them difficult and expensive to look after. We would like to apply, modern imaging technology with associated biochemical studies to see what happens to the brain in this infection and perhaps look at the effect of AIDS drugs on these symptons. Then there are questions about the transmission mechanisms—it may be that drug abusers are a particular starting point for heterosexual transmission of the disease and it is really heterosexual transmission which is going to be crucial. If the disease stays within certain small groups with particular habits, it will be less serious than if it spread out into the general population. There is no doubt that in Africa heterosexual transmission is possibly now more important than anything else, but it is not quite clear that that is happening here or why. We need to understand these issues here in this country and that is a different kind of activity than that for which we previously anticipated.

1933. Have you been refused funding for that particular work?

(Dr Rees) You keep asking me simple questions. Life is much more complicated than that! We have tried to get back at the Whitelaw Committee but failed.

Lord Rea

1934. Does the Whitelaw Committee still take representations? Is it still there to be got at?

(Dr Rees) I believe so.

Chairman

1935. Could I just clarify that that does not relieve you of the responsibility to pursue the programme, does it?

(Dr Rees) No.

1936. Therefore, you have to sacrifice something else?

(Dr Rees) Yes, exactly.

Lord Flowers

1937. That is what I was going to ask about. It is reasonable of you, off the record, to say, "Dear Government, we want more money for AIDS" and it is reasonable for them to say, "Why can you not spend some of the money you spend on cancer research on AIDS yourself?" and what sort of answer do you get?

(Dr Rees) As far as the mechanisms are concerned, obviously we have to go in for as effective a damage limitation exercise as we can on medical research. It is our responsibility to keep doing the best we can with what money we have got, however little it is, but this process of gradual reduction has been going on now for such a long time that our ability to find new money as quickly as we must do for this AIDS research is now exhausted other than by cutting project grants by even more than 20 per cent.

Chairman

1938. Even that does not act very quickly, does it, because you still have to write things down?

(Dr Rees) It simply means we do not fund those applications which come up this year, so the money is available in the current financial year. To save more money than that, we will have to look seriously at the nature of our strategic commitments.

Lord Flowers

1939. You have been killing off your infrastructure that way?

(Dr Rees) Yes, that is right, but we must do that again in the way that limits the damage.

Lord Hunter of Newington

1940. Are you prepared to make any comment about ABRC's plans for the science base in the future?

(Dr Rees) We have made an official response that we believe in concentration along the lines of the centres of excellence concept. We believe in multidisciplinarity which is another strong theme of the ABRC's document. I think the case for multidisciplinarity is stronger for our type of research than it is for some areas within SERC. (I have a little bit of sympathy for some other sections of the science community for not carrying this too far. As far as we are concerned, however we are solidly behind it). Up until now we have been unhappy about any form of categorisation of universities which is rigid and in terms only of whole institutions. The emergence of some pecking order of universities in terms of research excellence and performance I think is implicit in the concentration of resources argument. The transfer of the research component of the UGC grant to universities we would welcome, provided the sums of money made available were such that it made us possible to fund as much research as we are funding now.

1941. The area you can scan in universities for new ideas and winners coming up, which you can back, which has been a great source of new strength is going to be diminished very substantially?

(Dr Rees) Yes, I should have said that at the beginning that the ABRC strategy document was written and our reply was written against a background of assumptions that we would have to find a way of operating on a reduced base, so it is a question of how to create a viable base.

1942. To make the best use of——

(Dr Rees) ——of hopefully the present level or slightly improved, rather than on an increased level.

Lord Erroll of Hale

1943. Are you precluded from going to outside sources for funds? When I said lightheartedly £5 million with no strings, are you in fact prevented by your charter or whatever it is from going to outside sources to appeal?

(Dr Rees) No.

1944. Here I am rather stealing from Lord Kearton's admirable speech in the House ten days ago. There are a lot of very rich men in this country now who I would not say do not know what to do with their money but who, if you have not been to them, might do something very valuable by making a tremendous donation to this field of medical research. Have you thought of approaching them?

(Dr Rees) Certainly we have.

1945. Have you tried?

(Dr Rees) We have, yes.

1946. Have you had the brush-off?

(Dr Rees) Yes, lots of them, but we also have had some successes.

1947. Why do you not try again?

(Dr Rees) We will. Donors of this sort usually like their money to be associated with some specific venture or some specific enterprise.

Lord Sherfield

1948. You said that one of your high priorities was increasing the value of postgraduate research studentships. Would that increase the numbers or the value of the studentship itself?

(Dr Rees) Last year we did not get the take-up. There was a sudden drop in take-up of studentships and signs that the poverty level at which the post graduate students have to live is one factor. So that the first objective is to get the same number of studentships taken up by good quality people and, if we can increase their value, we think we might succeed in that. If we then find that we are not meeting the market, there are still good candidates and applicants who want to come in, we would increase the number.

1949. So it is a question of stopping a fall rather than making an increase?

[Lord Sherfield *Contd*]

(Dr Rees) Yes. Also, as I said before, we have an unhappy feeling that this morale issue is at least as important and there is not much we can do about that other than lifting the level of belief and optimism in scientific research.

Chairman

1950. If this were a morale question, do you see this as being a feeling that there is not a secure career or that the salaries and so on are out of line with what is being paid in the National Health Service or in other fields of endeavour?

(Dr Rees) It is an area you could sum up as a type of activity which is not valued by society, therefore you do not get strokes for what you do, you are not given the wherewithal to do your job. If you become a professional scientist you want to be in a position to do it and then there are other forms of insecurity which you hardly suspect might have become apparent in the current mood. If I could be anecdotal, our AIDS programme has been a very interesting experience in this respect. The directed AIDS programme, because it is a directed programme as I mentioned, is where we are targeting, trying to achieve certain practical results, and it is important that the Council should be looking over the scientists' shoulders, keeping in touch with their development, making sure they co-operate with other members of the programme, and so on. We thought it would help if we organised a meeting with every project team represented by the scientists just to give a short information account of what they were going to be doing, what reagents they were going to generate, what they could offer in way of collaboration to other scientists. That meeting had a mood about it that I have not experienced in this country since the early 1970s. The scientists really thought they were doing something which was perceived by society to be of value and importance.

1951. That is very interesting. The first question that springs to my mind is, why do we not do that in other fields as well? But it also raises another point which has been very much in our minds because we have been told on a number of occasions that you do not get good research through directed channels, you only get good research by people having the urge and inspiration to do things. You are saying that AIDS has proved directed research to be quite effective?

(Dr Rees) I was not quite making that point. I am sure there is a place for directed research, and I can discuss that if you wish. The point I was trying to make was that those people who to scientists appear to be mean-minded and only to regard science as an area out of which funding can be squeezed for other purposes, had acknowledged that here was an area of research which was important enough to have extra money, here was something they wanted us to do and were prepared to pay for. It was that factor, I think——

Lord Kearton

1952. The only reason you could do directed research was because of the results of undirected research of the previous ten years?

(Dr Rees) Absolutely, yes.

1953. Could I go back a step? What is the sort of level you are now pitching your post-doctorate fellowships at?

(Dr Rees) The post-doctorate fellowships go from, I think, some £8,000 upwards, depending on age and experience.

1954. That is still extremely modest.

(Dr Rees) Oh, yes.

Lord Sherfield] What about post-graduate?

Baroness Lockwood

1955. So post-doctorate fellows would start at £8,000?

(Dr Rees) Yes, that is about it, £8,000 or £9,000. Can I give the exact figures in writing later? I think it would be better.

Chairman] I think it would be more valuable to have the correct figures, if you would.

Lord Rea

1956. I wanted to take the training career opportunities topic a little further back. We have not talked about damage limitation perhaps, but repairing damage which has already been done. Look at that programme we used to fund, the intercalated year BSc programme.

(Dr Rees) We do.

1957. In the best of all possible words do you think it should be MRC funded or DES funded, and should all medical students be given the opportunity to do an intercalated BSc, not just a few—all medical students?

(Dr Rees) Yes to the second question. I think they should all be given the opportunity. On the first question, we regard these inter-calated years as very important in giving medical students not only the opportunity to become better practising doctors but stimulation which does turn some of them on to do some basic research. It is good for research, good for medicine, and very, very important.

Chairman

1958. And yet you have to cut back?

(Dr Rees) Yes, we have to cut back for administrative reasons, and the question was, "If those administrative reasons had not existed, should we fund them?" I think they should be funded, but in an ideal world it should not be through us because it is the type of activity we are not specially good at. We are good at planning research, assessing research proposals, determining research directions and managing it and so on, not on managing an undergraduate educational process, which is what this is, so someone else should do that.

Lord Rea

1959. That really should be a UGC function?

(Dr Rees) Or for the local education authorities.

Lord Hunter of Newington

1960. It has been suggested by some of the witnesses that the Clinical Research Board should be revived—I do not know what you have nowadays—and that the Clinical Research Board perhaps might be in the Department of Health and cover the clinical end of things and the National Health Service research.

(Dr Rees) That would be taking events in totally the opposite direction from what is required. What is required is for clinical research to be better informed of recent scientific advances in other areas, more stimulated, more effective, more beneficial in its effect on health care in the practice of medicine. Hiving it off, tucking it away, cocooning it away in some insulating environment where it will not receive such information would be bad.

Chairman

1961. Do you say that the dividing line between clinical and scientific research is more and more blurred?

(Dr Rees) Yes, and one of the most encouraging things about recent development is that we are beginning to see developing in this country a new breed of some individuals who are able to straddle the two areas and be credible in both and that is an excellent thing and we need more of this.

1962. You need more of that type?

(Dr Rees) Yes.

Lord Kearton

1963. We should ask Dr Rees to justify clinical research staying with the MRC because the evidence we have had so far is that it is stifled within the MRC. You said cocooning outside, but it would be cocooned inside.

(Dr Rees) I do not know why you say that.

1964. It does not get adequate priority, adequate support, adequate funding——

(Dr Rees) Who says it does not?

1965. Everybody.

(Dr Rees) So does every sector of our biomedical constituency. We are having to be tight all round. We do an enormous amount. One of the problems we have had is increasing the level of clinical research. I think we would, if there was the possibility, exercise a degree of positive discrimination in favour of research with patients.

1966. People have to be more patient all round with your basic research. There is a difference.

(Dr Rees) That is right, but there is a problem with the quality of research applications that come forward. We are in the business of spending money to achieve research progress. If research is done in universities for all sorts of other reasons as well, to inform teaching and to help health care and so on, then we have to take some account of that. But first and foremost we have to look at possibilities for research ventures in terms of how likely they are to make research progress. If proposals come forward from the clinical community, we must access them in this light by means of the peer review process. If the assessment in "The potential for research progress is low", we cannot give a high priority. The reason why we are not getting more research proposals with a high chance of making progress is that much clinical research is insufficiently informed by what modern biology can do to improve clinical understanding. In order to tackle that problem we spend as much money as we possibly can on training programmes to train young clinicians in modern science, biomedical science. We have a special scheme of molecular biology training fellowships for graduates. We have increased the number of training fellowships from 32 to 46 and we have instituted another form of clinical training programme which takes a clinician not only out of clinical practice and allows him to devote himself to research for training purposes for a limited time, but also gives him a period of two years——

(Dr Godfrey) It will be a seven-year programme in all; three or four years in basic training and the balance of the seven years in a clinical environment exploiting that training.

1967. We all accept that molecular biology is turning the whole field and opening it up in the most extraordinary way, but you have no evidence to say that dramatic changes in clinical practice will be around the corner. We could have five, seven, ten years, or, more and then this understanding could be reflected in clinical practice. The argument for today is not based on the molecular research side, but research not so spectacular on benefit?

(Dr Rees) I am talking about clinical research. Research is aimed at understanding these things.

Baroness Lockwood

1968. This seems to come back to the question of training. If you are saying that the proposals that you are getting from the clinicians for research projects are not of sufficiently high quality and that they do not understand some of the new advances in medical science, this seems to point to a very serious gap in their training.

(Dr Rees) Yes.

1969. How could that be a help in this if this is so?

(Dr Rees) You have a chicken and egg kind of situation and also got the situation of what can MRC do about it because it is not just training, but the way they have to operate. Your average clinical researcher has to respond to so many pressures to serve different functions in teaching and in clinical practice and research with different masters in charge of each. The arrangements for professional advances throughout the colleges also require that

[Baroness Lockwood *Contd*]

he spends his time in certain types of activity which make it difficult for him to do research.

Lord Kearton

1970. Are you not making out the case for a separate clinical research council associated with the MRC but having its own funding?

(Dr Rees) No, it is the total professional life of the clinical researcher of which research is only a part, which is the problem.

Chairman

1971. Are you not suggesting that there should be some special funding, some special administrative arrangements to ensure a satisfactory basis for the clinical research progress?

(Dr Rees) We have to ask whether we are addressing this question globally or we ask what the MRC can do about it. What we can do about it is make enthusiastic noises about the intercalated year and training schemes of the type I have just described.

1972. We are looking for what the Government should do in order to ensure that the priorities accorded to research meet the needs of the National Health Service. Your success is depending on adequate, timely and high quality clinical research and from what you are saying you are not getting that.

(Dr Rees) That is right.

1973. That is out of your control?

(Dr Rees) There is a special problem this year with this tactical measure we have had to take, but generally speaking the fraction of our budget which we spend on clinical research as narrowly defined (which means that work with patients) has been constant over the last six or seven years and the main reason we have not been able to is that we could not have increased it even if we had wanted to do, which we might want to do. I am a new Secretary and I have had to look at the situation, but that would be my feeling; it is going to be limited by the quality of the proposals coming through this year and there is a special hardship which is a different dimension.

Lord Perry of Walton

1974. Could I ask whether it is always the quality of the application or partly due to the fact that the assessors cannot see that there is a likelihood of success because not enough is known about the diseases? I am thinking of things like Alzheimer's disease and the psychoses in general.

(Dr Rees) Quality has been the most important factor. We sometimes wryly comment among ourselves, those of us who are not clinicians, that the clinical proposals are on the whole assessed by clinical assessors and clinicians seem to be to us, looking from the outside, somewhat more critical of each other, perhaps even hyper-critical, as compared with the way that other types of scientists treat each other.

Chairman

1975. Bearing in mind this clinical work, which is dependent upon the support of the National Health Service personnel, conflicts with research and patient care, do you think there would be any case for some authority within the National Health Service having the responsibility to oversee that research is getting an adequate share of the resources within the National Health Service to ensure its own needs are met?

(Dr Rees) I am not competent to judge how effective a mechanism that would be, but something that would achieve that would be very welcome. I was not meaning to dodge your very important central question you asked a few moments ago. We cover other topics. What should the Government do? I think some way should be found for harmonising the interests between the various bodies that operate on the clinical Colleges, the National Health Service, the MRC, in order to allow them to operate more effectively.

Lord Kearton

1976. In view of what you said earlier that is pie in the sky, do you agree?

(Dr Rees) Yes.

1977. With value judgments on medical research being made by people in the Treasury with no medical or scientific background whatsoever?

(Dr Rees) That is right, yes, but——

Chairman

1978. Quite clearly I was not suggesting anybody should exercise value judgments on medical decisions, on what the research should be. I was thinking of somebody overseeing it to see that resources are in fact made available, particularly those outside your control, for instance?

(Dr Rees) Yes.

(Dr Godfrey) Lord Chairman, just to go back to the basic problem, providing resources for clinical research, when the RAWP, the resource allocation exercise, was instituted in the Health Service, there was special allowance made for teaching called the SIFT, Special Increment for Teaching. That did not seem to take very much account of research needs. The DHSS has more recently been examining the allocation process and is currently looking at the question of whether sufficient resources are provided through that system for the research element, particularly of course in teaching hospitals. The other factor which covers the point you and other Members have raised is this: I was recently interested to see an answer in the House of Commons by the Secretary of State for Social Services who said that one of his Permanent Secretaries had been asked to chair a working party bringing together various interests both on the Health Service and the

[Chairman *Contd*]

academic side to look at the question of adequate NHS support for academic medicine.

1979. How many of your proposals for research are locally inspired, come up through the local health authorities, and various research bodies that exist in the regions.

(Dr Godfrey) Lord Chairman, there has been in existence for some time a locally organised research scheme. It arose out of a review soon after the start of the National Health Service by an interdepartmental committee with MRC representation which broadly divided the scheme into a central organisation for clinical research and a local research organisation, and since the early 1950s there has been this scheme which provides for research ideas arising immediately out of medical practice. That there was reviewed in the early 1970s. Its scope was then enlarged from being purely concerned with clinical research to trying to bring in studies in social sciences, the organisation of health services and so on. That continues in existence. We have some contact with it. We nominate representatives to some regional research committees and, through our contacts—because many MRC advisers also sit on those committees—we have some general knowledge of the scheme. It seems to be a very effective scheme for providing a ready source of funds on a limited basis for studies which as I said, originally arise out of practice going on in the hospital or outside the hospital in the community.

1980. A source of funds and a source of ideas and talented people?

(Dr Godfrey) Well, the source of funds is relatively limited. I am not sure, but I think of the order of £10 million a year for England and Wales. I am not certain of that figure. It provides, I think, in particular for a young clinician to be spotted and given an opportunity to show for six months or a year what he can do, and be trained perhaps in one of the most important basic aspects of research, the art of measurement.

1981. It could be very important.

(Dr Godfrey) It could be very important. So I think we would regard it very much as complementary to the sort of things we do.

Lord Hunter of Newington

1982. From which group you might well recruit people to do an MRC fellowship?

(Dr Godfrey) One would hope so, later on.

Lord Rea

1983. One of the things we have heard from other groups who talked to us is that there is not very much funding for researchers who would like to do work in the primary health care field. We have quite a high proportion of undergraduates opting to go into general practice now of quite high calibre and they do not have much opportunity to be trained to do research. A lot of them would like to do it. Has the MRC any way of encouraging such people? We have heard about locally based schemes which are run by the Regions, but what about the MRC?

(Dr Godfrey) The MRC, Lord Chairman, has for a long time been involved in general practice research and we go back a long way with people like Lord Platt chairing a Council Committee which tried to take initiatives in developing this area. To come to more recent times, I would quote as an example of what we are now seeking to do is the general practice framework. That brings in 300 group practices and of the order of three million patients, and it is a framework which is useful for carrying out studies originated centrally but involving family practitioners who participate in the research and take a very active role in it. Perhaps the best known of the studies that have been carried out is the recently reported upon study of the effects of treatment on mild to moderate hypertension that involved this framework and was a successful study which was completed over a period of years. I think in addition to the scientific value of the data obtained it brought general practitioners into close contact with research workers would hope that will be a stimulus to other studies. That is one thing. We also have other general practitioner studies that have been successful. Perhaps the best example is the very large study of oral contraceptives which was carried out in Manchester and is still going on. It produced immensely valuable data. The short answer to the question is I think we would like to find opportunities of being involved in research involving primary care with family practitioners.

Chairman

1984. You are looking for more proposals then?

(Dr Godfrey) Yes, indeed. There is, of course, another factor of which we hardly need to remind Lord Rea. I think the College of General Practitioners in recent years has developed very much along the lines of trying to promote research within general practice.

1985. Your oral contraceptive study was in fact——

(Dr Godfrey) Joint.

1986. Run by them with you jointly

(Dr Godfrey) Yes, indeed.

1987. Can I switch to another area before we conclude. That is health service research which we have touched on. You are involved in health service research up to a point. It is a relatively small activity, I think?

(Dr Rees) Yes.

1988. Do you see this as an appropriate area for the MRC? Does this sit happily within the MRC or is it more something which would be more intimately involved with the day to day running of the National Health Service?

(Dr Rees) It ought to be divided. Health Service

[Chairman *Contd*]

Research is not homogeneous. I think, as I said earlier, that research on various aspects of hospital organisation obviously ought to be done within the Health Service, whereas research which needs to draw on a substantial scientific base, such as ways to carry out cancer screening, for example, is appropriately done by the MRC.

1989. I am just wondering how easy it will be to draw the line if one said, "Well, this should be done here and that should be done there".

(Dr Rees) All proposals are considered and carefully evaluated and the evaluation process can take into account whether it is appropriate to the MRC or not. There are DHSS people sitting on the committees which make these decisions.

1990. One of the things which has come out from talking to witnesses seems to be the relatively small amount of research into Health Service questions bearing in mind the enormous size of the business, the enormous issues involved and the decisions which have to be taken very often with very little background research information being made available.

(Dr Rees) Yes.

1991. Is that a fair comment, do you think? That is the impression that some of us have got.

(Dr Rees) We do spend more than we are obliged to spend by our Concordat with the DHSS in this area, but it is still not very much—about £3 million.

(Mr Noble) We spend about £3 million a year under the terms of the Concordat, but before the Concordat was entered into, the MRC was already spending money on Health Services Research and it was beyond that pre-existing base that the Health Departments asked us to do more, that element of "more" we are now doing is to the tune of something like £3 million a year and the value of the pre-existing base which we have continued to maintain is now running at the order of over £5 million. If you put the two sums together we are spending something of the order of £8–£8½ million on Health Services Research of different definitions.

Lord Perry of Walton

1992. If they are going to calculate £8 million spent on it, how is it defined?

(Mr Noble) I think the easiest way to answer that question is that the £3 million which we spend under the terms of the Concordat is agreed with the Health Departments as meeting the definition of Health Services Research which they wanted applied when the Concordat was entered into. The remainder would constitute activities like the work of our Medical Sociology Unit which is conducting a whole series of studies on the relationship between social conditions and the incidence of disease and things of that kind, such as the relationship between ill-health and unemployment.

Lord Kearton

1993. You are beginning to sound like Professors Maynard and Williams at the University of York. Does some of your money go there?

(Mr Noble) Yes, it does. That pre-existing base continues, but there are elements in it which the DHSS would not regard as meeting the definition they impose under the Concordat.

Chairman

1994. Does the initiative always come through? Do you consider proposals put to you for work in these fields or does someone say, "Here is a business spending umpteen billion pounds a year and it should be important to have a look at this question, that question and the other question and have an adequate research team to look into these matters"? There are two approaches to the Health Service, are there not?

(Dr Godfrey) I think it is fair to say that until comparatively recently the MRC has been largely responsive in developing health services research, apart from the work which Mr Noble has referred to which had been going on in MRC units for some time. We have recently set up a Committee, the Health Services Research Committee, which was set up to advise on health services applications. It is not just a change of name from the previous Health Service Research Panel; it now has executive authority to award grants—it has a budget. The change was decided as a matter of policy and the Council has asked the Committee to pursue an interactive role, to develop work in the field and become involved in dialogue with applicants if their proposals do not come up to the level required. The Committee is also actively considering the need for more training in this field and I think they will take more of an active role in trying to encourage young research workers it is perhaps important to make the point that health services research is not a homogeneous field; it is multi-disciplinary. It is not academic discipline in its own right and a role the MRC must play is in helping the universities develop this field into an entity.

Lord Sherfield

1995. Who is funding this?

(Dr Godfrey) All by the Council, the developments I have referred to.

Chairman

1996. It comes off your medical budget?

(Dr Godfrey) Off the total budget.

1997. Would it not be logical to say, "This is in the interests of a more effective Health Service and therefore there should be a special fund available from the DHSS for this work", so that you are not competing for money for very worthy medical projects?

(Mr Noble) I think the Department of Health would argue that in the wake of the Rothschild transfer of funds and the return of those funds to

[Chairman *Contd*]

the MRC, the bargain they struck with us at that time was that we would be sensitive to their needs for Health Services Research to be done and this figure of what was then £2 to £2½ million a year, which we were going to spend in addition to what we were already doing in Health Services Research, was part of that bargain and that they were returning this money on the understanding that we would use some proportion of it to meet needs which were of assistance to them.

Lord Perry of Walton

1998. This is £2 million out of £2 billion, is it not?

(Mr Noble) I think in fairness, my Lord Chairman, the Health Departments would argue that they had run certain other kinds of research activity from within their own funds, what I would tend to call operational research, which would be to do with the functioning of the services of the Health Service and how they could be better matched to the Health Service's needs, but I am afraid I do not know how much money they spend on that and whether that capacity is under-developed or not.

1999. Neither do we.

(Mr Noble) That would be a question to address to them.

2000. Could I ask whether the applications for what you have defined as your Health Service Research come only from the universities as you pointed out or from National Health Service managers?

(Mr Noble) They come partly from the funding of our own units which I have already mentioned, such as the Medical Sociology Unit, and of course their programmes are designed with an eye to Health Service requirements. Secondly, some of the money is awarded in response to applications from a very wide community. These may be people working in the Health Service or working in the universities but either way they are free to come to the Council with applications in this area. We also have a form of support called "special project grants" where the Council or one of the Council's awarding committees will take an initiative and seek out someone and say, "Would you prepare some proposals because we think work in this area is much needed?" and that comes forward and is funded as a special project grant.

2001. But they do not come from management of the Health Service?

(Mr Noble) I would not like to exclude the possibility, but I do not have the impression we are getting very many.

Chairman

2002. This is a matter which we shall be looking at in connection with the evidence which we have had. In order that we are quite clear on what you say is your role in the Health Service Research and how it is working, would it be too much to ask you to let us have a very short note on what you do in this field or what you say is needed in Health Service Research?

(Dr Rees) Yes, I help——

Lord Hunter of Newington] The sort of coordination authority you suggest might help speed things on.

Lord Kearton

2003. In that connection I feel pretty unhappy, and I think the whole Committee is, about the hierarchical structure you have outlined to us. Your input as the MRC seems to be at relatively low level. You mentioned, for instance, when we were talking about cross-fertilisation that the Department of Health and Social Services and so forth represented you on the committee. You said in one connection your representative does pipe up—I think that was the phrase used. So to what extent is the case for the MRC argued with passion?

(Dr Rees) I would say considerably.

2004. You yourself are a member now of ABRC?

(Dr Rees) Yes.

(Mr Noble) It is a difficult subject to address, I think, in that all those who are pleading a special interest find that their interest is converted at some stage in the decision-making process into a political judgment and at that point, where that political judgment is made, that particular interest does not have a voice in the debate. But I do not think we are unique in that.

2005. I am just wondering this: you do an enormous amount on basic research, which is extremely valuable and extremely important. If you take AIDS, for instance, it is very expensive to have AIDS patients in hospital. You seem to me to be able to make a very good shot at saying the cost of not getting a cure for AIDS is going to be 70 million, 50 million, 100 million or 1,000 million in seven or eight years and, that being so, you want another five million now. Surely you could make that sort of argument.

(Dr Rees) Oh, yes.

2006. And did?

(Dr Rees) Of course.

(Mr Noble) We are assisted in that argument by the DHSS.

2007. The thing that is concerned is money now, is it not, no money in five years from now. They cannot be as stupid as that surely?

(Dr Rees) This is what is so disturbing to the scientific community. Initially the argument was that "There just is not the money, the country is too poor, we would love to do it and do all sorts of things but we don't have the money, so sorry." But now there is the money, the money is available for tax cuts but not for more adequate funding of scientific research so one has to conclude that there

[Lord Kearton *Contd*]

is a lack of belief in the importance of the activity and its ability to deliver.

Lord Erroll of Hale] Lord Chairman, there are political ways of dealing with that situation. Bang the drum to get a tougher core group together to say they are going to disband the MRC and to hell with the lot of you. Then you will get some attention. Why are you all so gentlemanly about it? Why not be tougher and rougher, if I may suggest it.

Chairman] The poor fellow has only just come into the job.

Lord Kearton

2008. I would like strongly to endorse Lord Erroll's suggestion.

(Dr Rees) I am open to all advice.

Chairman

2009. Gentlemen, time is moving on. I think we have covered most of the things we had in mind. Are there any other points the Committee would like to make to our witnesses? Are there any points you would like to make to us, Dr Rees, before we draw the session to a close?

(Dr Rees) No. I would just like to thank you for the degree of understanding and sympathy with our cause that I think I have detected.

Chairman] Thank you very much. We appreciate your giving up your afternoon to come and talk to us. It has been most helpful.

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HOUSE OF LORDS

SESSION 1987–88

MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

Thursday 17 December 1987

UNIVERSITY GRANTS COMMITTEE

Sir Peter Swinnerton-Dyer and Sir Colin Dollery

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THURSDAY 17 DECEMBER 1987

Present:

Adrian, L.	Nelson of Stafford, L. (Chairman)
Flowers, L.	Perry of Walton, L.
Hunter of Newington, L.	Rea, L.
Kearton, L.	Sherfield, L.
McFarlane of Llandaff, B.	Smith, L.

Letters from the University Grants Committee

The Medical Sub-Committee (MSC) of the University Grants Committee are grateful for the opportunity to offer evidence to the House of Lords Select Committee. They note that the Select Committee intend to examine priorities for the whole spectrum of research from the most basic to the most applied.

The MSC are of the opinion that the highest priority in the support of research is that the research itself is of very high scientific quality, competitive with the best undertaken anywhere in the world. In basic biology this is almost the only criterion that can properly be applied. Until the coming of AIDS, molecular virology was regarded as a rather esoteric subject with little direct application. Yet in a few years it has been thrust into the foreground of the battle against human retrovirus infections. The UGC, faced with scarcity of resources for both personnel and equipment, have chosen a policy of selectivity to minimise the harm done to the best research groups.

In more applied areas of medical research there is a greater opportunity for targeting resources but it is as well to recognise the limitations. The cause of most non-infective human disease is not well understood and the animal models are unsatisfactory. There is a need to support strong groups who include both clinical and basic scientists to carry out research on the cause and treatment of human disease. The decline in UGC support for the clinical academic disciplines since 1981 (a loss of 20 per cent in UGC supported staff) has limited the time available for the remainder to pursue research because of the demands of teaching and service. The increase in charitable funds over the same period has substantially ameliorated the loss in some areas but the medical charities tend to have very specific interests which means that some subjects (not connected with a diseased organ that tugs the public's heart and purse strings) tend to be neglected. An example is the slow development of clinical infectious disease as a teaching, service and research discipline.

The cutback in UGC funding, and the age bulge (35–50 years) of university teachers is an important barrier to flexibility because often new ideas are developed by the young recruits to a discipline. This problem has been ameliorated in the clinical disciplines by the outlet into the NHS but this path may be more difficult in future as the NHS begins to apply strict manpower controls to university clinical research fellows with honorary registrar or senior registrar contracts.

As science becomes more complex and competitive a serious problem is developing over the training of clinical research workers. On the one hand they must conform to very long (8–9 years) specialist training programs laid down by the Royal Colleges and on the other they ought to do a PhD in science to bring them to the standard at which they can make a serious contribution. There is a need to consider MD PhD programs in some medical schools, with a fast track to specialist qualification for the high flyers, so that they can begin active research before they are too old.

There has been an enormous improvement in health as a result of medical research and development. The effect of treatment of hypertension on the prevention of stroke, the virtual abolition of many bacterial infections and the great decline in the need to operate on peptic ulcers because of the development of drugs such as cimetidine and ranitidine are but a sample of many successes. These examples also make two other important points.

Firstly, the role of the medical schools and their associated hospitals in the development phase of new forms of therapy. An example is that bone marrow transplant was almost entirely introduced into NHS practice by clinical academics. The SIFT (Special Increment for Teaching) formula in the NHS does not make adequate recognition of this important function of clinical academics and teaching hospitals. The second point is the importance of strong basic biological science and high standards of clinical science to the undoubted success of the British pharmaceutical industry. Future success may be threatened if the base from which it springs is not secure.

Yours sincerely

Miss M J Darby
Secretary to the Medical Sub-Committee

April 1987

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1. When I wrote to you on 2 October, I said that I would let you have a full reply to your letter of 27 July as soon as I could. I am now almost but not quite able to do so. Please see para 37.

2. The Medical Sub-Committee of the UGC would like to take the opportunity to amplify their comments, conveyed in Miss Darby's letter of 30 April, concerning the problems of specialisation and the rigidity of career paths in the clinical academic disciplines.

3. At the time they qualify, medical students have received training in a large number of scientific and clinical disciplines. The overcrowding of the medical curriculum has meant that it is very difficult for a student to pursue any one of these topics to an honours degree standards unless he or she takes an additional year of study and obtains an intercalalated BSc degree. Thus most newly qualified doctors do not have a strong enough grounding in science for them to be able to undertake serious scientific research without substantial further training.

4. Meanwhile the knowledge base of the biological sciences and the knowledge and technical base of the clinical medicine have both expanded enormously. The clinical disciplines have responded by extending the training period for doctors who intend to undertake specialist work in hospital and imposing relatively rigid requirements as to the amount of time that must be spent in different fields of clinical study. For example, a newly qualified doctor must spend one year in a pre-registration House Officer post. If he intends to pursue a specialist career he would then usually spend one or two further years in Senior House Officer posts and attempt to obtain a qualification such as Membership of the Royal College of Physicians. He might then be able to obtain a Registrar post which would give him both clinical experience and some opportunity to undertake research. Normally such a post would be held for two or three years. Only then would he then be able to apply for a Senior Registrar post which was recognised for higher specialist training. Normally, this post would be held for four years before he obtained his first career position as a consultant in the National Health Service or a Senior Lecturer in a University Department. This training programme cannot be completed in less than about seven years and nine to ten years would be more usual. By that time the, now not so young, doctor would be 33 or 34 years old.

5. Most trainees would have undertaken some laboratory work during this time, particularly for one year. A few would have managed as much as two years. However, to make a serious contribution to science, the trainee ought to have undertaken a PhD, which normally takes three years. Simply to add this to the lengthy period of clinical training would be impracticable in most cases. There are several possible solutions. In the United States a number of medical schools are now running courses which lead to both an MD and PhD. In effect these are eight year courses (3 years in college, and 5 years instead of the normal four in medical schools). The graduates emerging from these programmes are very much better qualifed in science than anyone emerging from British medical schools. An alternative possibility is to provide an opportunity for medical graduates to undertake a PhD degree after they have completed their basic post-qualification training. This is only a viable possibility if the total length of the prescribed clinical training programme can be foreshortened.

6. If changes are not made in the present system prevailing in Britain, there is a serious risk that we shall fall far behind in the clinical sciences although no doubt our position in terms of purely clinical competence will be maintained.

7. The Dental Sub-Committee of the UGC has framed its response by answering the series of questions you posed in your original letter, as follows.

8. How are priorities for dental research set? How do these reflect the particular needs of the National Health Service, or more generally the health needs of the nation?

9. Priorities for dental research are set in a number of ways. Clinical researchers and dental scientists seek to solve basic problems posed by human disease, including its prevention and treatment. Priorities are also determined by the projects and programmes of research which are funded by universities, Research Councils and charitable institutions. About four years ago, the MRC replaced its Dental Committee by a new Joint Dental Committee, which consists of representatives of MRC, SERC, and the Health Departments. In this way priorities are considered including the particular needs of the NHS. This new committee seems to work effectively from that point of view. At a local level there are excellent opportunities for liaison for between University Dental Departments and Health Services to define priorities in research.

10. Is the present balance between different branches of research right? Assuming that resources are limited, what programmes might be cut back in order to allow those which should be given a higher priority to expand? What programmes need higher priority? Would priorities change in the light of increased resouces?

11. The present balance is probably not right as far as dental research is concerned. There is a need for better trained basic scientists and clinical academics in dental research. In comparison to medicine,

comparatively few dental students do an intercalalated Honours BSc. Until recently relatively few dental undergraduates had carried out a research elective. This is now changing but a number of departments in Dental Schools still lack the resources necessary to pursue high quality research. This is related to the heavy burden of undergraduate dental teaching where students close supervision in the clinical years and the time available for staff research is reduced.

12. Priorities also have been changing for example in the last five years the application of dental caries research in children has been so successful that the priorities now focus on the subjects as described in para 16 below.

13. Priorities would not change significantly in the light of increased resources but some high quality dental projects approved by the MRC, at present unfunded, would be supported. This is no way to improve the qualtiy of dental research.

14. Furthermore, research into the format and methods of dental education and their effectiveness is a neglected area and yet it is clearly fundamental to future progress in curriculum planning, cost-effective training and postgraduate education.

15. Are priorities in dental research changing with the incidence of disease, change in population structures and new technology?

16. There has been a marked reduction in dental caries in children with the research, development and application of preventive techniques. The special problems of the elderly and the handicapped are being investigated and more emphasis is being placed on research into periodontal disease and other diseases affecting the oral soft tissue, such as AIDS, oral pre-cancer and cancer. The valuation of new technology, dental materials and drugs in the diagnosis and treatment of dental and oral disease are increasingly important areas of current research. As in medicine, there is a growing awareness of the role of behavioural sciences and the need for research in this area.

17. How are priorities in dental research influenced by the institutions through which research is funded? How does the balance between public, commercial and charitable funding of research affect the setting of priorities by the different institutions involved?

18. The role of the universities, Research Councils and Health Departments are referred to above. Until now dental research has not received much money from charitable resources. It is not a popular subject for private donations, as it lacks emotional appeal and dental disease rarely has life threatening consequences. A considerable amount of dental materials and drug research is financed by commercial and industrial institutions. There have been no studies of how the source of funding might determine the balance of priorities in these research areas although clearly it could be an important factor.

19. Are the results of research adequately disseminated?

20. The results of research are disseminated via verbal contributions at scientific meetings, as well as publications in scientific journals and books. The number of papers given at the British Society for Dental Research and the International Association of Dental Research have been rising exponentially for a number of years. There is clearly a wish and an incentive to disseminate new knowledge as widely as possible. The main problem is for the individual research worker to keep up to date in their particular field of interest. There is also a need to convey new knowledge to dental practitioners and the present arrangements for vocational training and continuing education are inadequate and less well developed in dentistry than in medicine. At present this is an additional burden largely undertaken by clinical academic and hospital staffs.

21. How is unnecessary duplication of research effort avoided?

22. It is very difficult to differentiate between unnecessary duplication and the need to confirm previous findings. Often those who seek to confirm previous work make new advances because they observe old problems with the fresh mind. No research group will ever gain national eminence simply by repeating the work of others.

23. Is research reflected as it should be in actual improvement in patient care or health education? If not why not?

24. Dramatic improvements in dental health and treatment of dental disease have come from research. The use of fluoride has reduced dental caries in childhood dramatically. Improved dental materials have revolutionised restorative treatment. Health education and preventive measures have changed the prognosias for physically and mentally handicapped patients, for example those with cleft palate. The

treatment of oral manifestations of systemic disease has much improved. Problems remain, such as effective treatment of periodontal disease and care of the elderly.

25. What changes in priorities in training of dental researchers are needed?

26. Dental research, like medical research, is now a multi-disciplinary activity. There is a need to allow some undergraduates to receive some research training by doing intercalated Honours BSc degrees in a wide variety of science subjects, including Materials Science and Behavioural Science. All dental students should be exposed during their undergraduate course to a project which introduces them to research methods. There is also a need to support more graduates on qualification to do a PhD or MSc. There is an acute problem at present in dental, as well medical, schools from the reduction in academic posts. If clinical dental academic staff are to fulfill their teaching responsibilities and their increasing role in postgraduate education, they will have less time to supervise and train young dental research workers. Furthermore, some of the most able young trainees view a clinical academic career as uncertain and less attractive compared with the most defined and shorter training pathway leading to a NHS Consultant post. The idea of a combined BDS, PhD for the most gifted with a special programme leading to specialist qualification and honorary consultant status would be of great help to clinical academic dentistry.

27. Should any specific changes in organisation or funding be made in order to increase the quality, quantity or application of research?

28. A number of specific changes have already been referred to in the answers above.

29. The UGC has recently devised a method of distributing grant based partly on achievement in research and this has reminded University Departments of their responsibility in this regard. Historically, dentistry is a comparatively recent subject in universities. There were special UGC earmarked grants made in the sixties to establish academic dentistry. The benefits to dental research of the special initiatives were starting to come through in the seventies but this was soon followed by the period of university financial cuts. Dentistry, starting from a low resource baseline, has been less able to bear the financial constraints imposed. It is recognised that proportion of time spent by university dental staff on teaching is higher than in other university disciplines, approximately 80:20 (teaching:research). If we are to improve the quality of dental research, therefore, it is essential to remove some of the burden of undergraduate and postgraduate teaching from our academic staff, who have a no less important responsibility to spearhead dental research in our universities. This has resource implications but it could be achieved by changing organisation and funding. The increased time devoted to research would:

29.1 Enable research workers to be better trained to participate in multi-disciplinary teams in inter-departmental research;

29.2 Encourage our best young research workers to maintain knowledge and skills in their main scientific disciplines and apply the latest techniques to the solution of dental and oral research problems;

29.3 Allow senior staff time to train juniors in research methods and allow for some retraining of senior staff, which is not occuring at present,

30. The special problems of the gifted clinical academic who has to maintain his scientific training and research on the one hand, and obtain professional qualifications and clinical experience leading to honorary consultant appointment on the other, should be more fully appreciated by the Joint Committee for Higher Training in Dentistry and by appointments committees.

31. The creation by the MRC of the Joint Committee for Dental Research has helped to co-ordinate dental research and determine priorities for the future. Unfortunately, it has had to work in difficult financial circumstances and as a consequence there have been a number of high quality dental research projects approved but unfunded (unfunded alpha). This is most regrettable and demoralising for the able researcher and if this trend continues our international standing in dental research will inevitably suffer in the future.

32. The Biological Sciences Sub-Committee restricted its comments to the questions (h) and (i) posed in your initial letter of 9 March. Much of what is said in response to (h) which follows is in line with the comments of the Medical Sub-Committee.

33. Medical research is undertaken by science graduates (referred to as scientists) and medical graduates (referred to as clinicians). This division is greater in this country than in many others with the result that scientist may know little about clinical problems and, more importantly, clinicians may not be in touch with scientific advances. This latter scenario has been graphically described by Joseph L Goldstein in his Presidential address to the American Society for Clinical Investigation (published in J Clin Invest 78,

848–854, 1986) in which he described PAIDS (Paralyzed Academic Investigators' Disease Syndrome). The central tenet of Goldstein's article is that clinical stimulus can only be converted into fundamental discoveries when it is coupled with basic scientific training.

34. Clinicians in the United Kingdom may undertake two years of descriptive science prior to becoming Senior Registrars and Consultants but are unlikely to undergo serious scientific training. This may be because research is regarded by aspiring clinicians not as an end in itself but as a means to an end and because the modus operandi of clinical medicine stifles investigative science and is insufficiently flexible to allow real commitment without blocking career development. Real encouragement should be given to talented clinicians to spend sufficient time in a scientific laboratory to train and prepare themselves adequately for a life of research. Around five years are probably necessary for this. During this time they should of course carry out clinical duties for one or two sessions a week. Entry into mainstream clinical medicine should be facilitated. Ideally this scientific research should be carried out in a multi disciplinary laboratory which has established links with clinical disciplines (see para 35 below). These suggestions all assume appropriate funding.

35. On organisation of funding, question (i), everything militates against long-term commitment to research by clinicians. It is also true that many scientists are lothe to get too involved in "applied" (in this context, clinical) research. They also feel that career development in their own speciality (physiology, pharmacology, biochemistry, molecular biology, etc) could be retarded by such actions. Lone scientists who have been hired to work in clinical departments are not a good idea because they lose contact with progress in the parent discipline.

36. The solution is to encourage (with funding) research groups or units with one foot in clinical medicine and another in biological sciences. This will foster an appropriate milieu in which the training of clinicians via interested scientists can take place, to the benefit of both. To achieve this, funding must be more long-term. Project grant support to such centres must be extended from three years (often, now, only two years) to five years so that centres can be encouraged to formulate long-term training and research plans for clinical scientists.

37. I will write again on nursing research when I have the views of the Committee's Panel on Studies Allied to Medicine.

Yours sincerely

J G Gooderham

November 1987

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1. In my letter of 13 November which you kindly acknowledged on 16 November I undertook to write again to give you the comments of the Committee's Panel on Studies Allied to Medicine on nursing research.

2. First, some historical background. Nursing is a relatively new university discipline. The first courses were established in Edinburgh (1958) and Manchester (1959) with non-tenured posts funded by the NHS or charities to establish teaching programmes. No funding was allowed for research. From this inauspicious beginning, the resourcing for test courses has been built up and staff have been tenured since the late 1960s. Other university departments of nursing (Hull, Cardiff, Surrey, Kings (London), Liverpool, Glasgow and Southampton) were established in the 1970s with more adeqaute resourcing in some cases. The departments are relatively small with annual undergraduates intakes of 12 to 30. With this size and the range of teaching (including clinical teaching) the critical mass of staff needed to establish effective research programmes is lacking.

3. In recent years the Panel on Studies Allied to Medicine has received a number of requests from universities anxious to establish nursing programmes. The policy of the Panel has been that the rather small and poorly resourced departments that exist should be enlarged and strengthened rather than new departments established. The major consideration has been the availability of academically credible staff to head up departments. The problem of academic credibility relates to experience and publications based on research coupled with clinical credibility. However there has been no concerted policy as to how existing departments could be strengthened. The restrictions on student numbers and economies in staff have weakened rather than strengthened them and hypothecated funding has not been seen as a possibility.

4. The major sources of research funding to departments of nursing have been:

4.1 DHSS, SHHD and Welsh Office fellowships and studentships (from 1966) but now reduced in number and value. A number of heads of departments and senior researchers have emerged through this scheme;

4.2 DHSS, and SHHD funded research units for example Royal College of Nursing (1966 to 1972), the General Nursing Council (1960s) Edinburgh Nursing Research Unit, Surrey Nursing Practice Research Unit (previously at Northwick Park), Kings (London) Nursing Education Research Unit. The RCN and GNC Units were discontinued in favour of university based units;

4.3 Regional Health Authority Small Grants;

4.4 WHO (Europe) Multi-national studies for example WHO Collaborating Centres for Nursing Process at Manchester and Edinburgh (funded via DHSS and SHHD);

4.5 HEC funded projects at Manchester (Communications in Nursing, Teaching Communication Skills);

4.6 Small scale funding from the pharmaceutical industry and charities.

5. The organisation of funding and national advice is given by a small staff of nursing research officers at DHSS, SHHD and the Welsh Office who form part of the Nursing Research Liaison Group of the Chief Scientist's Organisation. At one time there was a Nursing Research Liaison Officer on the staff of most Regional Health Authorities. These posts have been discontinued and a large amount of research advice to nurses in the Regions in given by the university departments on a good will basis.

6. Answers to the specific questions posed, interpreted in relation to nursing, are as follows.

7. How are priorities set? The Nursing Research Liaison Groups at DHSS, SHHD and Welsh Office are quite powerful in identifying NHS priorities and funding projects in these areas.

8. The siting of a university department within a faculty and the strengths of teaching may influence priorities. Nursing departments are in a variety of faculties. In Manchester, Cardiff, Glasgow and Southampton they are in the Faculty of Medicine. In Liverpool, Kings (London), and Surrey they are in the Faculty of Science. In Edinburgh the Department is in the Faculty of Social Science, and in Hull the Department is an independent school.

9. In any event, the research problems presented in the practice of nursing draw equally on biological sciences and social sciences but the research strengths of a department and its perception of priorities may relate to the strengths of the faculty or the experience and expertise of the academic nursing staff. Where the Department is in a Faculty of medicine there is ample opportunity for collaborative research, for example in Manchester, the Departments of Surgery, Psychiatry and Nursing have worked collaboratively but on different aspects of the problems of patients following mastectomy.

10. Many important nursing research questions relate to the role, organisation and deployment of the nursing staff and form part of Health Service Research.

11. Evaluation of educational strategies and education for specific roles is closely related to evaluation strategies in general education. Because of the size of nursing manpower (509,000) it should be given a higher priority.

12. Is the present balance of research right? Within the comparatively small volume of nursing research the balance is probably about right but more of everything is needed.

13. Prior to 1966 there was a tendency to concentrate on nursing roles and manpower questions rather than nursing practice. There is now a growing volume of research into nursing practice but the manpower and educational issues are equally important. In nursing practice research there has been a greater emphasis on problems informed by behavioural sciences rather than the biological sciences. Those departments in science faculties have a greater balance of biological science related problems and make a valuable contribution.

14. Are priorities in nursing research adapting to changing incidence of disease etc? The major problems addressed in nursing research relate to methods of care rather than to specific disease for example catheter care, management of diabetes, ulcers, nutrition of the unconscious patient or the patient receiving chemotherapy.

15. The research questions asked by nurses have responded to epidemiological and demographical trends and the caring problems associated with them and changes in therapeutic regimes as they effect the nursing care given to patients. For example, two major concerns in nursing research have related to care of the elderly (problems of continence, mobility, orientation etc) and methods of patient teaching which is an increasingly important part of the nursing role.

16. How are priorities influenced by funding institutions? As indicated in paragraph 7 above the projects for which funding is gained relate to the perceived priorities of those institutions.

17. Are the results of research adequately disseminated? There is a surprisingly effective system for dissemination which includes:

17.1 Refereed journals—national and international;

17.2 Indexes of Nursing Research Studies—national (DHSS and RCN) and international;

17.3 Well developed research discussion group with regional groups (RCN);

17.4 An Annual Nursing Research Conference and Annual Research and The Midwife Conference with published Proceedings;

17.5 European Nurse Researchers Annual Conference with Proceedings (instigated by WHO Europe);

17.6 International Nursing Research Conferences call for Papers and Proceedings.

18. How is unnecessary duplication avoided? The volume of research presently undertaken does not make for much duplication of effort. Some replication studies have been useful.

19. Is research reflected in improvement in care or health education? Dissemination may not be a problem but changing practice based on findings is. There is an increasing number of nurses appointed as "change agents" in quality control or clinical nurse consultant posts. Part of their role is to use available research and also to integrate this into the health education role of the nurse.

20. What changes in priorities in the training of nurse researchers is needed? The present undergraduate and postgraduate courses contain research method courses and for the most part require the student to carry out research in part fulfilment of the degree. Because of the need for clinical experience, postgraduate research experience may be gained later in the career than in some other sciences and may mean a considerable drop in salary (to staff nurse grade). Post doctoral opportunities need to be expanded (the DHSS awards one Fellowship per annum). As in medicine, facilities for an intercalated degree would enhance the scientific underpinning of research. There is a need to explore the combination of clinical and research roles and to undertake more collaborative projects.

21. Should any specific changes in organisation or funding be made? Present funding is entirely inadequate. In the past the MRC have not considered nursing proposals and the ESRC have directed nursing proposals to the MRC. They have recently indicated that they would be open to receive proposals.

22. The size of Departments of Nursing and the critical number of staff needed to sustain viable centres of research should be reviewed. Further nursing research units with an established focus of expertise are needed.

Yours sincerely

J G Gooderham

November 1987

Examination of witnesses

Sir PETER SWINNERTON-DYER, Chairman, University Grants Committee, and Sir COLIN DOLLERY, Royal Postgraduate Medical School, called in and examined.

Chairman

2010. Sir Peter and Sir Colin, may I welcome you to our meeting this morning. Thank you for giving up the time to join us. We are very pleased to have the opportunity of meeting with you prior to the conclusion of our enquiry. This is now reaching its final stages, so it is very appropriate that we should have this opportunity of questioning you, particularly in view of the important role you play in the working of the dual support system. As you know, the dual support system has come in for quite a lot of criticism which has been conveyed to us in the evidence that we have had, in that the science base has been progressively weakened and this is causing a good deal of concern. So it would be very interesting to have the opportunity of exchanging views with you today. Thank you for your note which is very helpful to us. Is there anything you would like to add at all, before we start the questioning?

(Sir Peter Swinnerton-Dyer) Not for my part, but Sir Colin Dollery may want to add something. I am, after all, the ignoramus among us, and the whole of the UGC on medical matters listens very largely to what Sir Colin says.

(Sir Colin Dollery) Perhaps I can qualify that and say that I hope it listens to what I and my advisers on the Medical and Dental Sub-Committees on the panel of the UGC like to say. However, I do not think I have anything specific to add. I prefer to answer your questions.

[Chairman *Contd*]

2011. Could I ask one general question really just for information? What is the position on the review of the University Grants Committee undertaken by the Department?

(Sir Peter Swinnerton-Dyer) That reported last spring, I think, and a lot of its report was taken into account in the proposals for the University Funding Council which was incorporated into the Education Reform Bill.

2012. So it is in being, is it, basically?

(Sir Peter Swinnerton-Dyer) The University Funding Council?

2013. No, I mean the recommendations.

(Sir Peter Swinnerton-Dyer) The recommendations are incorporated into the Bill which is at the moment passing through the Commons.

2014. So it has not yet got through to you?

(Sir Peter Swinnerton-Dyer) No. It is conjectured that the UFC will come into being in April 1989.

2015. Then could you again clarify, are the funds relating to the medical schools hypothecated all the way through?

(Sir Peter Swinnerton-Dyer) They are not, no, not at every stage. Those parts of the funds that come through the UGC come to us as part of the general government grant to the UGC and they are passed on by us to the various universities as part of the block grant to universities.

2016. Are they earmarked for the medical activities in the universities, or are they just part of the block grant?

(Sir Peter Swinnerton-Dyer) No, they are just part of the general block grant, and the decision as to how much of the block grant to spend on medical schools is that of individual universities.

Lord Hunter of Newington

2017. Would there be any guidance from the University Grants Committee to the universities about this and other matters?

(Sir Peter Swinnerton-Dyer) There has never been any major guidance. There are little bits and pieces of guidance. For example, the latest public expenditure round produced us an extra £4 million to pay for the past shortfall in meeting the cost of medical stipend increases. That will be passed on as part of the block grant, but the figures will be made clear to vice chancellors. If they needed guidance, we would give it. We can be pretty sure the medical schools are powerful enough that we should not have to give detailed guidance.

2018. Do you think that this is the end of the problems for medical salaries?

(Sir Peter Swinnerton-Dyer) For the particular year to which that £4 million refers, yes, but it is conceivable that medical stipends will go on increasing by greater percentages than those of non-clinical academics. If so, on the Treasury's present style of operation, there will be an analogous problem every year. We hope this £4 million is a precedent, but we cannot be absolutely confident.

Chairman

2019. What puzzles some of us—and it relates to the terms of reference of our Inquiry which is the state of medical research as related to the needs of the National Health Service—is how are the funds which go to the medical schools through the UGC is determined. What is not clear in our minds is how those are in fact related to the established needs of the Health Service. It seems to be disconnected. However, maybe there is some mechanism which reflects the needs of the Health Service in the amount of money which comes into the medical schools?

(Sir Colin Dollery) Perhaps I can try to answer that. Although it seems a simple question, it does not have a simple answer.

2020. I think we had probably spotted that!

(Sir Colin Dollery) The first point to make is that the medical schools' primary role is to be medical schools; that they are there for an educational purpose. However, the numbers of students in this subject are fixed by the Department of Health, so whereas in other disciplines the UGC decides, after consultation, how many students there should be, in medicine and dentistry those numbers are laid down by the DHSS. We bow respectfully and then go off and execute that instructions in relation to the total number, although the UGC decide on their distribution amongst the universities. So there is a very tight coupling there. It is true that a proportion of the funding of the medical schools is for research, and there the coupling is less tight in an official sense, but in an unofficial sense I believe it is still tight, because many of the developments in medicine that are fed into the National Health Service arise in clinical academic departments, so there is a very close linkage on an R&D level between academic departments and the development of all sorts of sophisticated services in the National Health Service. For example, renal dialysis and renal transplant, which is now a conventional procedure, were almost entirely developed in academic departments. More recently, bone marrow transplant not only was largely developed there, but even today it is largely practised by academic physicians.

2021. That is coupling between individual pieces of research and the foreseen health needs, but it is really the scale of funding for research through the academic channel to which I am addressing my question. How is that related to the scale of need? Is there any coupling there?

(Sir Colin Dollery) That is not so clearly defined. It is more than just research, it is development. The major university hospitals have a complex function which is perhaps not fully described by the way either the Health Departments, or perhaps in some

[Chairman *Contd*]

senses the UGC, think about them. They are tertiary-referral centres, so they receive an unfair (in financial terms) concentration of the complex clinical problems. They are also places where new treatments are devised, and also where they are developed and refined for clinical use. There was a recent review of what is called the SIFT allowance (Special Increment for Teaching) which teaching districts received. That review concluded that, purely for teaching, SIFT might be too much but for the other functions of the major university hospitals, the research and development functions, it was too little.

2022. Would you share the fear that has been expressed to us by other witnesses that the well-found laboratories are, in fact, in danger of being unable to fulfil their proper role because of inadequate funding?

(Sir Colin Dollery) I ought to turn to my Chairman because that comes into the question of the UGC equipment budget, which is something he has been very energetic in pursuing.

(Sir Peter Swinnerton-Dyer) Yes, the answer I think is that it is getting harder and harder to maintain well-found laboratories in every experimental university department, and I do not see how medicine can be exempted from that general truth. Part of that is the genuine squeeze on money compared to the number of students we have got to teach. Part of it is the fact that research is becoming intrinsically more expensive because you need steadily more sophisticated pieces of equipment. The fact that almost any worthwhile piece of equipment has sophisticated electronics built into it—and something close even to rudimentary intelligence—puts the price of the individual indivisible thing up very considerably, and there is a strong tendency for each department to need one each of a number of individually very expensive pieces of apparatus.

2023. Yet, on the other hand, the needs of the Health Service seem to be continually advancing.

(Sir Peter Swinnerton-Dyer) The needs of the Health Service are continually rising, but the cost of medical schools is a fairly small proportion of the cost of the Health Service.

(Sir Colin Dollery) Even in the teaching hospitals you find the NHS budget is very considerably greater than the university budget. A typical medical school might be receiving grant from the university of around, let us say, £4.5 to £5 million, and the accompanying teaching hospital would probably have a budget of £40 million, in some cases sub-stantially more.

2024. But the academic grant is really fundamental to the dual support system for the maintenance of well found laboratories, is it not?

(Sir Colin Dollery) Yes.

Lord Flowers

2025. Chairman, I wanted to pursue this point a little further. We understand, of course, that medical schools are funded by three bodies, if you like: by the UGC in respect of the education function largely; by the MRC or Research Councils in respect of research functions; and by the Health Service in respect of the service function that they will perform. I think one of the points of the Chairman's question was the extent to which the Health Service, the DHSS, tries to influence the UGC as to the amount of money you make available from your total block grant to medicine; whether you just do it in comparison with all other subjects with no concern for the Health Service, and, for that matter, the extent to which the DHSS may intervene with the DES about the total size of the UGC budget, or at least that part of it which is devoted to medicine. I wonder whether you could comment on these esoteric aspects of government financing as it affects you.

(Sir Peter Swinnerton-Dyer) Yes, though only to a very limited extent. Firstly, if the DHSS tries to influence the UGC on putting more money into medical schools, I think it does it through the Medical Sub-Committee. The Medical Sub-Committee does point out that medical schools need more money, as each of the other subject sub-committees points out that its own topic needs more money. If there is influence from the DHSS it comes through there, but so far as that Sub-Committee is concerned I think it is pushing at a reasonably open door. As to communication between DHSS and DES, which in particular means I suppose the DHSS pressing the DES to try and get more money for medical schools as part of the grant to the UGC, we are never told much of the thinking that goes into the DES public expenditure bid. We supply our bid to the DES, not all of which is accepted, and we learn that we get a certain amount of money and we get some indication, though not all that much, on which parts of our bids have gone down well and which parts have gone down badly. But I have not in the past got the impression that the DHSS has gone very far in supporting the DES bid because they have got so many bids of their own and they are more concerned to support their own bids than somebody else's. Sir Colin may want to add to that.

(Sir Colin Dollery) Perhaps I can add a gloss to that. There is a fair amount of input to the Medical Sub-Committee from the DHSS. To go back a little bit into the past, the decision to establish academic departments of general practice and some academic departments of radiology and anaesthesia, which was a decision to encourage those that came to the Medical Sub-Committee, certainly was in part a response to pressures from the DHSS that they thought there was a service need for those subjects to be built up academically to encourage better people into them, and if there was academic development then that would assist it. That pressure happened in the 1970s when there was still money available for development, so we were able to do that without too severe constraints elsewhere. Since the late 1970s, as you must be aware, sir, the amount of money available for the university system has

[Lord Flowers *Contd*]

been steadily contracting in real terms and we have been more managing an orderly retrenchment than anything else. In those circumstances, new developments have been very difficult to find money for. We have found some money for new developments but not much. That has meant we have had to be somewhat more resistant to bright ideas from people who would like new developments, for example, to start new subjects like toxicology in the medical schools, which is one request that came from the Department of Health and Social Security. There are a lot of informal contacts. The Chairman of the Medical Sub-Committee has a regular meeting with the Chief Medical Officer of the DHSS, and with the President of the General Medical Council and the Chairman of the Education Committee of the GMC. So there is a lot of opportunity to have an informal interchange about each other's problems and each other's priorities, but our room for manoeuvre has been very constrained in the last few years.

Chairman

2026. If it is the case that the well-found laboratory base for an adequate scale of medical research is, in fact, being eroded, how would you feel that could be rectified?

(Sir Colin Dollery) I have to say, Lord Nelson, that I do not think the central problem is the wellfound laboratory. It is a problem, but there are much more fundamental problems facing clinical research at the present moment. Clinical academic medicine is the victim of a two-way stretch because the people who do clinical research in the medical schools are providing clinical services and also doing research. What has happened over the last few years is that the demands clinical training have become very much more complex, and therefore much more lengthy, which has meant young people, who are often the best and brightest research workers, have less time to do research. On the other side, the science that underlies medicine has become much more complex. What we call new biology—molecular biology—and the degree of professionalism in science that is required to make serious progress—has become much more demanding and the clinician who can spend only two or three half days a week in his laboratory finds it much more difficult to be competitive. Even if we had maintained the same level of financial support and the same number of people, we would still have been meeting today to discuss a crisis in academic medicine and clinical research. Funding has shrunk on the university side and although it has not shrunk on the NHS side it has decreased in many of the inner-city health districts in which university hospitals are located, as a result of national, regional and district RAWP. As the demands have been getting greater on the specialist training of young doctors, and the degree of professionalism required in research has increased, the specialist resources have diminished. That is the central problem.

2027. There have also, it appears from witnesses' remarks to us, been considerable increases in pressure on those involved in research to give more time to patient care and therefore they have less time available for research.

(Sir Colin Dollery) That is a consequence of reduction of staff numbers, because people who have clinical responsibilities tend to take them very seriously. They also treat their teaching responsibilities seriously. There are only so many hours in the day. If the number of staff available falls, then research does tend to be the element that is squeezed most.

2028. If you see that as a more and more pressing problem, what would you like to see done to ease that position?

(Sir Colin Dollery) I think it is inescapable that some institutions which are going to be the lead institutions have got to be funded on a somewhat more generous basis than at present. They have also got to be better organised. The departmental organisation of medical schools and the subject orientation of clinical disciplines make a lot of sense when it comes to the delivery of medical care to sick people. It is less evident to me that it makes sense when it comes to doing research. There *are* opportunities within the medical schools, I believe, for trying to group people together by the concepts or the techniques they use for doing research, rather than saying that this is somebody from medicine, or paediatrics, or anaesthesia, or what you will, and that each of those departments must have its separate research empire.

2029. The science itself is changing somewhat, which is dictating this, is it not?

(Sir Colin Dollery) The science is converging. That is one of the interesting things. At one time pharmacologists worked on receptors, biochemists worked on enzymes, pathologists worked on structure. In truth now all biological scientists tend to culture cells, to work on receptors and enzymes and to think about ultrastructure integrative mechanisms. That convergence of science is one of the things that underlines my argument that perhaps some reorganisation of the research base is necessary.

Lord Hunter of Newington

2030. Could we look at the contribution of the charitable foundations? It would seem that they have created a problem, by their very generosity, that it is fairly easy to get money for short-term support for research workers, even for the training of medicos, but there is no career structure for these people. Is this your experience?

(Sir Peter Swinnerton-Dyer) I think that is true, but I would not say that the medical charities are causing a worse problem in this matter than probably the MRC and certainly not than research councils in general. I do not think this is a problem peculiar to medicine. Let me go on to mention that you can say that the money the medical charities

[Lord Hunter of Newington *Contd*]

produce is a problem, but I wish we had more of *that* kind of problem and less of all the others!

2031. Does Sir Colin think there should be a career structure in the Health Service for R & D?

(Sir Colin Dollery) There needs to be a greater recognition in the Health Service of the R & D function of the university hospitals. I do not think that is recognised much at all. In a sense, that is a responsibility which is rather beyond the UGC's remit. We have a remit in research, but it is not really the DES's job to pay for the development of ideas once they reach application beyond the research laboratory. That bridge is an area of great difficulty. It is one of the important functions of the university hospital to be the bridge-builder.

2032. You would feel personally that though it is someone else's responsibility, this need has to be met?

(Sir Colin Dollery) Yes. One of the things that I am hopeful about is that Mr France, who is the Permanent Secretary at the DHSS, called a meeting about a month ago, which brought together the UGC, the DES, the DHSS, the NHS, representatives of the vice chancellors and the GMC. He has set up a working party under the Second Permanent Secretary, Mr Partridge. I am quite optimistic that that will lead to a rather more intregrated approach. It is the first time that all of those parties have got around one table at a senior level. It was a good meeting. There was a really positive feel about it. Everybody not only recognised that there was a problem, but they did seem to be motivated to try to do something about it.

Chairman

2033. What are the terms of reference of that working party?

(Sir Colin Dollery) I cannot tell you the exact terms of reference, although we could get them for you. It was really to look at the interface between the universities, medical education research and the National Health Service.

2034. We would like to have that information—it is quite an important point, is it not?

(Sir Colin Dollery) Yes.

Lord Perry of Walton

2035. Have you got any idea why it has not been done before?

(Sir Colin Dollery) I cannot comment. The dividing lines between Departments of State do seem to be rather firmly drawn.

Lord Adrian

2036. I was going to ask whether the University Grants Committee has any views as to how far the proposals in the strategy for the science base about R, X and T universities might be appropriately applied to medical schools, because they are going to be difficult to apply to many science departments, but I suspect they may be even harder to apply to medical schools, may they not?

(Sir Peter Swinnerton-Dyer) I was going to say that your question presupposes that they are reasonably sensible to apply to the rest of the university structure, which I am not sure I would fully admit. However, they certainly seem to me to present extraordinary and unreasonable difficulties in application to medical schools. The UGC view, in contrast with the strategy advice, is that one ought to think in terms of the quality of departments or related groups of departments, and not institutions as a whole. It really does not make a lot of difference to the quality of research in a medical school how good the department of history in that university is, for example.

2037. I would agree wholeheartedly with that. As a supplementary, how far has the University Grants Committee's policy of selectivity been applied already to medical schools and to the funding of medical schools?

(Sir Peter Swinnerton-Dyer) We are phasing in our new allocation process, which on the research side involves selectivity to a very considerable extent, over four years, of which the last one is 1989/90, because if we did it any faster some universities would simply have gone bankrupt. By 1989/90 a good experimental department in most sciences will be bringing in, under the research ticket, three or four times as much money as a bad one of the same size in the same subject. I should have thought that that figure applied to medical schools just as much as any other experimental subjects.

(Sir Colin Dollery) Under the research ticket, that is true.

(Sir Peter Swinnerton-Dyer) Under the research ticket, yes.

(Sir Colin Dollery) Perhaps one should explain that we made a decision in each of the sub-committees about the proportion of staff time we thought went to teaching and we thought went to research. That was partly based on the diary exercise that was carried out by the UGC in 1970 and partly on some more recent information. In medicine, and particularly in dentistry, I think it is true that the proportion of time that academics spend on research is smaller than it is in the natural sciences. Therefore, although the leverage on the R fraction is the same as in the natural sciences, the proportion of the whole on which that leverage is acting is smaller.

Lord Rea

2038. I wanted to ask if you could put an estimated sum on the amount of money that would be required to restore what some people call the "damage". (In other words, to bring back the status quo of 1980 with regard to the amount of research going on and the number of people employed in research.) Then having had a quick and not particularly accurate stab at that (since I do not think you can possibly come up with an accurate sum), if that were done and if the good state that was going on until 1980 were restored, what would

[Lord Rea *Contd*]

you do with a subsequent sum of money? What would be the UGC's priorities with regard to medical research spending, if there were money made available over and above what is required to make good the damage? Obviously you cannot think that one out completely here but what would be the kind of lines of thinking you would be going on?

(Sir Colin Dollery) The university system outside clinical disciplines has lost about ll percent of its UGC support staff over that period of time; while the proportion lost in the clinical disciplines (of Catagory A UGC supported staff) is just under 20 percent, so the loss has been higher in the clinical disciplines almost entirely because of the underfunding of the pay awards. Universities have broadly maintained, with some exceptions, the proportion of their income they spend on medicine but, because the pay awards have gone ahead faster than in other subjects, the number of staff that will buy has been proportionately fewer. In the last public expenditure round the UGC made a bid to restore half the loss of clinical academic posts which would have brought the loss in clinical academic posts to roughly the same percentage as it was in the rest of the university system. The bid was for 200 senior lecturer level posts. Unfortunately that bid was not successful. We did receive a little more money—£4 million—which as the covering letter from the DES made clear was for the clinical pay award and some amelioration of the situation in clinical medicine. Unfortunately almost the whole of that sum is required to cover the clinical pay award.

Chairman

2039. That decision was taken by whom?

(Sir Colin Dollery) The Treasury, I suppose.

2040. Presumably the DHSS would have supported you in that approach?

(Sir Colin Dollery) They were well aware of it because we took steps to make sure they were. I did had a meeting with officials of both Departments about the bid so they were well informed and I am sure they were supportive. When it got down to the nitty-gritty of bargaining with the Treasury, what priority they gave to it I do not know.

Lord Flowers

2041. On the whole, not wearing your UGC hat but wearing your Medical School hat, would you rather medical education was funded through the DHSS entirely and not through the DES? It would get rid of certain complications.

(Sir Colin Dollery) It would create many others, Chairman. I hold very strongly to the view that medical education must remain in the main-stream of the university system. There are some superficial attractions to transferring the clinical part of the course to the DHSS, but I have had much experience of working with the DHSS. I have a high opinion of the Department, but it has little expertise in matters academic. What is needed, I think, is to strengthen the science base of clinical academic medicine at the present moment as well as the clinical base, and the strengthening of the science base, particularly with the burgeoning of the new biology, can only be done in strong universities with strong biological and other sciences.

Lord Hunter of Newington

2042. Would you object to a return to the board of governors?

(Sir Colin Dollery) Chairman, that is a different issue. I think I would welcome the idea that university hospitals were recognised to be a little bit special and not exactly the same as a district general hospital that happens to have medical students and some regional specialities, which is a bit the way they are regarded at the moment. I personally—and this is not a UGC answer—have welcomed the fact that university hospitals are responsible for a health district. I have a global view of health care. That includes care in the community, and care in out-patients as well as traditional in-patient care. I do not favour the idea of building a series of isolated ivory towers.

Chairman

2043. The corollary to your answer to Lord Flowers' question must be that, if education remains where it is and research is very much linked with education, there must be a strong link between that and the needs of the National Health Service.

(Sir Colin Dollery) Yes.

Lord Flowers

2044. Is SIFT a sufficient mechanism to represent that?

(Sir Colin Dollery) It is a difficult question, Chairman. My understanding of the origin of SIFT is that it was more a fudge factor to prevent the bankruptcies of the university hospitals under the reorganised Health Service than a very serious costal estimate. The fudge factor was then reduced by a certain percentage for "efficiency gains." Your adviser Professor Holland, might well be able to give more expert opinion than I can about it. I have already indicated that I have some scepticism about SIFT because it is discharging several different functions under the name of teaching. For teaching it is probably an adequate sum: what is really needed is the much more specific recognition of R & D functions of the major university hospitals with in the Health Service and funding of that component.

Chairman

2045. Do you think the Health Service itself recognises the importance of the R & D function as related to the needs of the medical care of the country?

(Sir Colin Dollery) I am not, of course, a spokesman for the Department of Health and Social Security, but I am sure the very top of the DHSS does recognise that need. I suspect that when

[Chairman *Contd*]

you get down the line administrators are often so consumed with the day-to-day problems and urgencies of providing for mentally subnormal children and the elderly and so on, that the R & D function does not carry very high priority.

Baroness McFarlane of Llandaff

2046. Lord Chairman, could I go into some of the subjects allied to medicine, first of all, dentistry? I see from your evidence that four years ago the MRC replaced the Dental Committee with a new Joint Dental Committee, and I wondered if that is the kind of structure that is now being reflected in the newly created committee in medicine and the advantages that that holds. You say here "in this way the priorities are considered including the particular needs of the NHS".

(Sir Colin Dollery) The UGC, as you know, Lord Nelson, has a Dental Sub-Committee. I think if we were starting again we probably would not have a separate dental sub-committee because in university terms dentistry is not a very large subject. In the evidence I gave to Lord Croham, wearing my UGC hat, I said I thought it would be more sensible to have a board that dealt with the health sciences which would include dentistry and paramedical disciplines. That would not prevent one setting up special subgroups to consider problems of dentistry or pharmacy or nursing if that was necessary at the time. I think they share sufficient things in common, it would be better to have a single committee. I also said in that evidence that I thought the University Funding Council's Medical Committee would need a strong input from the DHSS although I think, without too much criticism, I have to say that when one talks to the DHSS officers they often do not have very strongly formed opinions about education or the R & D side.

Chairman

2047. By the officers do you mean the medical officers or the administrative officers?

(Sir Colin Dollery) I mean the Permanent Secretaries, the Deputy Secretaries and the Under Secretaries.

Baroness McFarlane of Llandaff

2048. Could I follow that up, Lord Chairman, with the panel on subjects allied to medicine? I have to express personal interest as a member.

(Sir Colin Dollery) Of which you are a most distinguished member.

2049. It seems to me there is a problem in the professions represented at that committee of the development of new professions and new subjects allied to medicine, and you have given some examples within medicine itself like general practice and toxicology. I wonder what kind of discussion can take place about hypothecated funding for newly emerging subjects such as there was for dentistry in the 1960s, and whether in fact in the present state of economies any newly developing discipline has inevitably to be held back?

(Sir Colin Dollery) It is not an easy question to answer, Chairman, because there is, as Baroness McFarlane says, a good deal of pressure at the present moment to expand the university intake in nursing. That is something to which I am very sympathetic and, if you wish, we could discuss it further. There is also pressure from a number of paramedical disciplines such as physiotherapy, occupational therapy, radiography, for degree courses to be founded in the universities. The reason it is not a simple question is that quite a lot of education in this area is not within the university sector, that is, higher education; it crosses the binary line to the polytechnics and colleges. One of the touchstones we have used is that there is a certain minimum level of academic attainment which we think is appropriate for people entering university courses to have, and if a particular profession is attracting very few people of that level of attainment, then we have been sceptical about whether it is sensible to start degree courses in the university sector. One of the reasons why my own sympathies have been enlisted about moderate expansion of nursing in the university sector is that we have been shown evidence that the quality of the students coming into the existing university courses in nursing is for the most part high and the natural need is great. So we are not unsympathetic, but we do have to look at things fairly critically.

Baroness McFarlane of Llandaff

2050. If I might follow that up, I think that we are faced with the fact, in a discipline like nursing, that it is extremely difficult to expand a department unless there is an adequate research base, and getting funding for an adequate research base in a discipline of this kind is extremely difficult. I wondered to what extent the UGC is able to look favourably upon any new emergent discipline in that respect and to take its present development in a historical context?

(Sir Colin Dollery) I think that I should turn to my Chairman.

(Sir Peter Swinnerton-Dyer) I do not believe that we would want to fund a new emergent discipline unless it had reasonable scope for research associated with it. If it did not have reasonable scope for research, I think we would say pretty firmly that that was the public sector's business. If it has reasonable scope for research, then if we fund it at all we shall fund it in a way that provides money both for teaching and for research. That, I think, would be so well understood in the university system that we would not necessarily have to earmark money. We do, as Baroness McFarlane will know, currently give universities a much more detailed indication about the presumed student numbers we build into our allocation model than we used to do. The other problem, though, is having decided that it would be a good thing to create a new department of nursing somewhere, where do we find the money from? There are three possible answers. One is reducing the unit of resource all round. I think that that process has

[Baroness McFarlane of Llandaff *Contd*]

gone as far as it reasonably can. A second one is reducing the student numbers in some other subjects. Occasionally there are subjects for which you can say that student numbers ought to decline. Within your purview there is at the moment dentistry in which the DHSS has recently imposed two successive 10 per cent cuts in student numbers. From time to time there are universities which do decline, but it does not happen very frequently. The third one, of course, is actually getting new money out of the Government. Reluctantly, I have to say that that seems to happen even less frequently at the moment.

Chairman

2051. Do you at any time approach the DHSS itself and say, "This is an area which we're worried about; there's inadequate funding" and suggest that it would be in *their* interest to fund some of that work to which you refer?

(Sir Peter Swinnerton-Dyer) If we wanted to do that I think we would have to do it through DES. An approach to the DHSS from us direct would carry very little weight. It would also give offence to the DES that we were endeavouring to bypass them. Unsuccessfully attempting to bypass somebody cannot be a sensible policy.

2052. Perhaps I should frame my question differently and say do you approach the DES and urge them to approach the DHSS to do this?

(Sir Peter Swinnerton-Dyer) Yes, and we have done.

2053. Does it work? Have you been successful?

(Sir Peter Swinnerton-Dyer) Again, we do not know. This is really related to Government's decision about resources. Government is a black box into which we put our entreaties and from which something sometimes comes out!

2054. In a mysterious way!

(Sir Peter Swinnerton-Dyer) Yes.

2055. What about the question of overheads of your laboratories? This is an issue which has been raised with us by some of our witnesses. I believe that certainly the charities and others expect the well-found laboratories to be provided, as you might say, with these various services as part of the education, training and research activity of the department, and they do not expect to use their funds to contribute to the basic overheads of the well-found laboratory, they only expect to pay for the work itself which they commission. Would you like to comment on that? That is another source of funds, if you can get some of the overheads paid for from elsewhere. However, there is very strong resistance to that, I think, is there not?

(Sir Peter Swinnerton-Dyer) Yes, the idea of the dual support system in its healthy days was that the UGC produced the well-found laboratory everywhere, so that if any university department obtained a research grant from the Research Council, there was the necessary background for that research grant to flourish and produce results. It has always been accepted that the medical charities or at any rate those of them that use peer review come in on that system. It seems to me sensible that they should, on the whole. The dual support system in its traditional form cannot altogether survive, because there is not enough money to produce the well-found laboratory everywhere. It was a bit wasteful, in the sense that some departments in some universities hardly ever attracted any research grants, because the research done there was not very good. We are clearly going to be reduced to a state in which we continue to produce the well-found laboratory in what we think of as the best departments, we produce the not-too-badly-found laboratory in middling departments, and we produce in weaker departments scope for them to pull themselves up by their bootstraps. I would not like to quantify any of those terms, but that is the only way we can possibly proceed. If a research grant comes to a badly-found laboratory, that research grant is in the future going to have to come with more overheads. However, it would be simply unworkable to take a different view with the best medical charities from that which we take with the MRC. I think that that is Sir Colin's view also.

(Sir Colin Dollery) Yes, I agree with that. Medicine is different from science and engineering in this regard, because the medical charities provide proportionately as much as the MRC do or perhaps even slightly more, and there is a fair amount of co-ordination with the MRC. For example, in cancer the MRC privides relatively little money, because the cancer charities are well funded, and there is a good co-ordination between them. There is a developing co-ordination in some of the other subjects as well, though perhaps it could be improved. One has to view the major medical charities as being very much on all-fours with the MRC, working in the national interest. Therefore, the Chairman and I have argued that they should be considered within the same framework when it comes to the question of overheads. However, the overall overhead calculation we do in the formula is only 40 per cent of the grant, and we know that in the universities generally, with the division between departmental and central expenditure, 40 per cent is an unrealistically low figure and a more realistic figure would be 65 per cent. So an institution that is extremely successful in getting a lot of research grants is not entirely compensated for the overhead costs. In my own institution, which is the Royal Postgraduate Medical School, the financial strains of a budget which now is over £16 million a year, with a university base of under £5 million, are very evident, simply because computers, libraries and all these kinds of things are not really adequate for the volume of external research money that has been brought in.

2056. I can understand that. If universities are successful in raising money elsewhere, through charities and other sources, are they protected from being penalised in that respect?

[Chairman *Contd*]

(Sir Peter Swinnerton-Dyer) You mean if they get more money from outside sources, would we be tempted to give them less?

2057. Yes.

(Sir Peter Swinnerton-Dyer) The answer is that they are now altogether protected.

2058. They are protected, not "Yes, they would be"?

(Sir Peter Swinnerton-Dyer) No. The answer is that they are protected. There is nothing in our allocation model that would even permit us to penalise them, and that is a much more reliable assurance than that we are too high-minded to do so.

(Sir Colin Dollery) Maybe protected from the UGC, Chairman, not necessarily protected from the Government. That is one of the arguments I met when we argued for restoration of some of the loss of category A staff in clinical disciplines. It is that there had been this large increase in charitably-funded posts. If one looked at the total number it had not declined, so the Government is applying the argument there that the success with charities means there is less need to put public funding in, whatever they may say in terms of policy statements.

Lord Rea

2059. Did you not actually just say, because you are successful in getting grants from a variety of sources, that you are very stretched because the overheads you are charging are not sufficient, so that in a way your very success is causing problems for you?

(Sir Colin Dollery) Yes.

2060. Do you think the solution here is to raise the overhead percentage, as you suggested, or is this something that the UGC, were it able to, would feel was part of its responsibility—to provide, a better-found laboratory than there is even now at Hammersmith?

(Sir Peter Swinnerton-Dyer) You have to remember the UGC is cash limited, so we can only provide more money under some heading by providing less under others. What you are really asking is, should we move to an even greater degree of selectivity, of inequality, in our research funding. I think the answer may well be that we should continue to move to greater selectivity, in other words that the process should not stop at 1989-90 when we achieve the figures given by our present allocation model, but we cannot move in that direction faster than we are now doing because the universities who are relatively losing money because they are thought weak in research simply cannot cope with too rapid a decline in their grants.

Lord Adrian

2061. This may be a question you would rather not answer: do you have any notion as to whether the University Funding Council intends to continue with the allocation model that the UGC is using now in the years post-1990?

(Sir Peter Swinnerton-Dyer) I find it difficult to see how they could put together a radically different funding model overnight, and I actually find it fairly difficult to see how you could put together a radically different funding model at all, short of going back to a model which is not explicable in rational terms, and that I think is unlikely. The real issue is not whether you change the structure of the model but whether you change the various parameters you put in.

Lord Flowers

2062. You do not consider the proposed contracting system, which has been talked about and mysteriously is not talked about quite so much now, is inconsistent with the formula funding model you have used yourselves?

(Sir Peter Swinnerton-Dyer) I think the contracting system, as I understand the underlying thought, is pretty well consistent with the formula funding because what it really means is not "You shall sign a detailed contract to deliver this, this and this every year" but that universities get money because they produce things the nation wants, not out of entitlement; and our funding model essentially pays in terms of the two major things the university produces, which are teaching and research. The teaching component is based on student numbers and balance of subject, the research component is very strongly based on perceived excellence of research, and that is at least a rough measure of how much research the departments have delivered in recent years. That leaves aside the whole problem of measuring the quantity and quality of research.

2063. But a contracting system supposes, does it not, that universities can put in bids and that the UFC is then expected, other things being equal, to accept the lowest bid. That is not consistent with the formula funding basis of the system at all.

(Sir Peter Swinnerton-Dyer) I think you are taking one interpretation of a contracting system, and I hope that is not the interpretation that the DES and UFC will put on it.

2064. I hope so too.

(Sir Peter Swinnerton-Dyer) The consultative paper left a good many questions open.

Lord Hunter of Newington

2065. We have not mentioned the hospital departments of pathology, microbiology and biochemistry which are confined to the public health service and are sometimes combined with academic departments. What contribution could they make to the future in this changing climate?

(Sir Colin Dollery) The usual pattern in the university hospitals, but not the universal one, is that university professors are heads of the service laboratories although there may be a substantial number of NHS staff, and a large part of the costs

[Lord Hunter of Newington *Contd*]

are normally reimbursed from the Health Service. That is an area where the knock for knock agreement is not usually run in its full form because it would bankrupt the universities if it were. The pathology departments might well be consuming a million and a half or two million pounds, sometimes more. They play a very valuable part because they provide the sophisticated services in pathology and chemistry which support the work of a specialised institution, and if the university input was not there, the institution would be a weaker one. They suffer from the same problems as the academic clinical departments. They may develop new methods with research money and then have great difficulty when those methods are subsumed into routine clinical practice in funding them. I could give a whole list of examples from my own institution over the years.

Lord Hunter of Newington] I wonder if Sir Colin could give us a little paper on this together with some of the detail which he mentioned. It is an area of academic clinical research, with R & D going on in the hospital itself supported largely by the hospital.

Chairman

2066. That would be very helpful.

(Sir Colin Dollery) I would wish, Lord Chairman, if I can have your permission, to consult with one or two experts in the field of academic pathology to help me in doing that, perhaps Professor Whitehead.

2067. Could I raise another question? Are you concerned about the lack of attraction for a career in the higher educational field leading to researchers of high quality? A number of witnesses have pointed out that it is not a very attractive picture—difficulties of funding, pressures of patient care, lack of consistency of terms of service between the academics and the Health Service leading to a situation where the best people are not opting for the higher education which will itself lead to the creation an adequate body of researchers. This could surely starve the nation of the sort of quality of research work which has been traditional in the past. Would you have a concern?

(Sir Peter Swinnerton-Dyer) Yes, I am sure we would both have a concern. I think it is for Colin to explain in detail, but I would be as much concerned as he, both because of the disincentives that you have already mentioned and because of what may be even more serious, that the structure of clinical training is one that does not seem to have been thought out in terms of the possibility of a research career. It is fairly clearly designed to produce practising doctors, and if you are going to move into a research career, you have to contrive to produce your career structure out of material that is not designed to be altogether helpful.

(Sir Colin Dollery) If I could say one positive thing to begin with, my Lord Chairman, I think that clinical academic medicine is the best job you can imagine. It combines, as it were, high rewards from serving patients, relatively decent pay and high rewards also from tremendous research opportunities. So one should not be too gloomy about the situation. What you say in your preamble nevertheless has much truth in it, and the reasons are quite complicated. One of the reasons applies to the whole of the university system: that when you are contracting and you are prematurely retiring people, let us say, over the age of 55, the number of vacancies that appear by the process of normal retirement becomes very few. Because almost all the sciences—and medicine is part of this—had a period of rapid expansion through the 1960s and the first half of the 1970s, a lot of the clinical academic staff already in post are not very close to retiring age. So young people looking ahead see that there are going to be fewer vacancies, and the young people do look at the possibilities of getting career posts—perhaps too much, because the very good people still find jobs. But for the people who are good but not quite the best it is a problem, since there are going to be fewer vacancies and there will be fewer on the academic side because we have been contracting, particularly on the category A UGC-supported posts which are the career posts. In the NHS, despite what you read in the papers, there has been a slow expansion of the consultant establishment. It is slow, but at least it has not been contracting. So a young man looking at a choice of careers might well say that there is a better opportunity on the NHS side. There is also a difference in the disciplines. In some of the divisions of internal medicine, which is where I work, the pulls are not so strong, because there is a bigger research reward in those disciplines on the whole; there is more opportunity, and the other pulls—income from private practice and that sort of thing—are not so great, because the opportunities for high earnings for people in internal medicine are much smaller. However, in surgery, obstetrics and gynaecology, where there is a very high demand for technical proficiency at and therefore a long period of training and a need to do long operating sessions, in consequence fewer research opportunities, balanced on the other side as well by the relatively high private practice earning capability, at least in the South-East of England, then you do begin to run into very grave problems. However, even in internal medicine, senior lecturer consultant posts are attracting only about a third of the number of applications that NHS consultant posts are receiving. That is an indication of people voting with their feet. That will only be turned round when people can see that the career opportunities on the university side are no worse than on the NHS side, and perhaps if there is a change of atmosphere in the universities as well. What one could say to the young people coming into research in clinical disciplines is "Maybe you won't earn quite so much money, but you're going to have a much more interesting life, with new ideas coming along all the time." That is, of course, research. When the research starts getting squeezed in time and money,

[Chairman *Contd*]

then the attractions of the academic post as against the service post are not so obvious.

2068. It is difficult if the number of tenured posts is seen to be limited and everybody is fighting, is it not?

(Sir Colin Dollery) I am a radical here. I am opposed to strict tenure. We have got a real problem coming up if the Government, in the Education Reform Bill that is before Parliament, do appoint commissioners, as I assume they will, to abolish tenure on the university side. Not one peep has come out of the Health Department to abolish tenure for Health Service consultants, and the academic career will become just that bit more unattractive, because no one has a more rock-hard tenure than a National Health Service consultant.

2069. Who would be the body to look at this structure to which you referred? You said it has not really been looked at, and it has grown up like Topsy. Is it not time it was looked at and some properly structured approach introduced? Whose job will it be to do that?

(Sir Colin Dollery) It is a very difficult issue. Supposing one said that it is right to have abolished strict tenure on the university side, but it would be a disaster for the clinical academics if the Health Service did not follow suit. The problem is that the Health Service is such a vast undertaking, ten times bigger than the clinical academic ranks or more, and the Health Department are very cautious when it comes to matters that affect very strong unions like the BMA. I think it would be extremely difficult to effect a change.

2070. I was not thinking of that particular point; I was thinking of the whole question of having a studied approach to a career in research leading to the higher qualifications.

(Sir Colin Dollery) It may be something that Mr France and Mr Partridge's committee will address, although I suspect they will mainly be concerned with nuts and bolts issues. There is a need for someone to address it. Quite who, I am not sure. In many ways it is something the Committe of Vice Chancellors and Principles ought to be taking a lead in. One of my concerns—perhaps an improper one—is that the Medical Sub-Committee of the UGC has, if you like, been an important bastion in defending clinical academic medicine. It may not have been all that successful over the last few years, but it has certainly tried. I am not sure that that bastion will still exist under the University Funding Council and the CVCP has not been a particularly effective organisation in thinking about medical academic matters. But I think it will probably fall to them in future.

Lord Rea

2071. There are the 200 senior lecturer posts that you suggested. If they were created, would it make a major difference countrywide to the attractions of academic medicine?

(Sir Colin Dollery) I think it would make an important difference. One must not exaggerate how big the difference would be, but it would change the atmosphere quite radically. It would be important in another sense as well. I am concerned about the rather old-fashioned look to much of the science that is practised in clinical academic departments, and one of the arguments I put forward—it was supported by Sir James Gowans, the then Secretary of the MRC—was that this would be an opportunity to bring in people to clinical academic departments who were trained in the new biology, in molecular biology, and the chemistry and physics that flow from it. So I think it could have a reviving effect somewhat out of proportion to the relatively small numbers.

2072. Doing a rapid calculation, if each salary was £25,000, it would only cost £5 million per annum. You then have to have other expenses to support them, I agree, but it is still quite a drop in the ocean considering the total amount of money spent on health.

(Sir Colin Dollery) Our bid was £6 million a year.

Lord Kearton

2073. It is most impressive to hear you two witnesses this morning. Sir Colin mentioned this business of the orderly management of retrenchment in which the achievement of the UGC in the last few years has been quite remarkable. I get the impression that you really see the end of retrenchment in 1989. Supposing the Government does not come up with more money and still takes a restrictive attitude to further finance, what do you see as the whole business of medical teaching, medical research, five years from now, if there is no further injection of funds or improvement in general outlook for higher education?

(Sir Peter Swinnerton-Dyer) I think we are getting close to the stage where the orderly management of retrenchment by nibbling away cannot be carried any further. If the Government wishes to go on diminishing the amount of money it spends on the university system, it has to accept that that can only be done without major comprehensive damage by diminishing the size of the university system, and that is not going to mean just closing departments. The least damaging way will be to close complete universities. Now, that will not necessarily hit medical schools because you can shift the balance of the expenditure between one subject and another, so there has also to be the question which subjects are you going to pick for major damage? But, though Sir Colin may argue that producing the number of doctors that the country needs has an absolute priority over the UGC's other responsibilities, the Committee as a whole would not, I think, take that line and I believe that would necessarily have to be a political decision, not a decision at UGC level. It is, what do you give up that you are not prepared to give up?

[Lord Kearton *Contd*]

2074. Coming back to medical research, we have heard lots of evidence which indicates that unless there is a major shift in the Government's attitude the number of trained research workers and, for that matter, really highly-qualified, high-level doctors will start to be seriously damaged more or less permanently by about 1995. Would Sir Colin agree with that?

(Sir Colin Dollery) I agree with that, and I think there is already a problem if you compare us with the best institutions in the world in the clinical academic areas. Whereas twenty years ago I would have regarded somewhere like the RPMS in Hammersmith as fully competitive with the Massachusetts General Hospital or John Hopkins, I do not think it would be as easy to argue that now. You could argue it in some subjects, but I do not think you could argue it across the board. This is partly a matter of numbers, but that matter of numbers does allow people to have much more time for serious professional research. If we do not make some changes, it will be difficult to maintain any of our institutions as being really in the world class, and I am afraid that they will decline more into an aspect of teaching schools which would, I suppose, make them look rather more like the Eastern Bloc medical schools.

2075. We had the rather extreme view expressed to us when we were in Boston that whereas perhaps ten years ago we led the world in molecular biology, we are now getting to the stage where distinguished molecular biologists in America thought that it is hardly worth while for them to visit molecular biologists in this country, and they thought that in the future, five years from now, it would definitely not be worth while coming to this country at all. As I say, that was a rather extreme point of view, but it was one which was expressed to us. What is your comment on that?

(Sir Colin Dollery) It is an extreme point of view, and one can think of exceptions to it. Going round departments of medicine in the United States, I find people doing distinguished molecular biology and cell biology, and if you go round departments of medicine in this country I can really think of only two or three at the most where you could say that, and on a very small scale. We are falling behind, there is no question of it.

2076. The standard of funding for the centres of molecular biology in the United States was quite breathtaking—$60 million at one university, $40 million at another and so on.

(Sir Peter Swinnerton-Dyer) We could achieve those standards if we had funding at least faintly comparable with them. However, you cannot be world class on parochial funding.

Chairman

2077. Is this something which is, you might say, not being faced up to, so that one is going to have either to increase the amount of cloth available or else cut the coat accordingly, which could mean cutting down on the number of institutions, maintaining fewer of them at the right standard and not trying to spread the available funds too thinly, thereby running everything down? Is that the sort of situation which could arise?

(Sir Peter Swinnerton-Dyer) That is the sort of situation that could arise, yes.

Lord Kearton

2078. If I can try another tack, it has been mentioned at some of our Committee meetings, that the advances of medical science are such that it is getting very much more sophisticated, very much more technology-orientated, and that it could mean that people in the Treasury feel that the more research you do the more expensive the National Health Service is going to become. Have you had any reflection of that at all?

(Sir Colin Dollery) I was writing a paper on that subject the other day, but for a rather different purpose. I serve on a planning advisory committee called the Advisory Committee on Medical Manpower Planning at the DHSS, that looks into the question of how many medical students we should train for the future. We were discussing the requirements in terms of medical manpower over a planning horizon of 10 to 20 years. I produced a paper on changes in medical practice amd disease over that time span. I tried to argue through in that paper what gains there might be from better preventive measures partly based on research which might require fewer doctors, and on the other hand the demands that the new technology and the new science would make. One important question is the rising expectations particularly of elderly people who do not expect to be simply given loving care because they are 75 or 80 years old, but tend to think that if they have an acute illness then it should be looked after in much the same way as it would be in a 45 year old. There is also active research and development going on. Take just one example, doctors are very much more active now in intervening in an acute coronary attack. In the next five years if somebody with a coronary is seen within the first four hours, they will be given treatment both to dissolve the clot, and to protect the area of heart muscle that was without a blood supply for four hours. Catheters will be passed in to dilate narrow areas of the coronmary arteries. There are so many coronaries taking place within the country that if measures like this were widely adopted it could consume an enormous amount of resources. There are also going to be great advances in the treatment of cancer. If they were simply like a penicillin for cancer they would not consume so much effort, but they are more likely to be incremental rather than quantal improvements and they will require heavy medical and nursing input. Our Health Service is very lightly funded. I do not think it is funded on a scale at the present moment that will make it possible to cope with these advances.

2079. You mentioned the treatment of clots, and as you know one of the big American companies

[Lord Kearton *Contd*]

has just developed a biological agent which helps——

(Sir Colin Dollery) Genentech, yes.

2080. I saw a statement that they hope this will be handed to paramedics, ambulances, for treatment, and it costs $2,500 per dose. Clearly that is the sort of thing which——

(Sir Colin Dollery) I think the price of that will come down. There is an alternative substance called Streptokinase which is much more unpleasant to take and often causes fever and skin rashes but is probably equally efficacious. There are other alternatives available but the point is well made.

2081. Could I press you on old people? We have had it said that about half the total medical expenses for anyone occur in the last six months of their life. That is rather interesting. I did not ask for full verification, but more and more elderly people are expecting more and more treatment, and the question of funding the Health Service is going to become, on your assessment, much more acute.

(Sir Colin Dollery) I think that is outwith the UGC's remit. It covers the whole field of medical care. What you say is true and I do not suppose the taxpayer or the individual insurer will ever be able to provide as much medical care as people feel they would like to have. It is not strictly the business of your Committee, Lord Chairman, but there was an interesting letter in The Times yesterday from a correspondent who said the Prime Minister had pointed out that expenditure on the Health Service had gone up nearly threefold in money terms since 1981 but when he looked at his private health insurance premium it had gone up fivefold over the same period. That is probably a fair reflection of how NHS expenditure would have gone up by if the consumers, the patients, had been controlling the expenditure.

2082. One more question: if we have really got to make these choices on how to spend our health money, how to get best value, do you have any views on how much more health services research we should do?

(Sir Colin Dollery) I think it is a very important area and I and Professor Holland over there have both been involved in it, he on the practical level, I in a more supporting role because I was at one time chairman of a grants committee at the Department of Health that was concerned with supporting health services research. When I was a Board Chairman at the Medical Research Council I was an active supporter of the creation of their Health Services Research Panel. In a personal role, I have served on the management committee at a number of large clinical trials which have been trying to answer questions of relevace to provisions of health services. It is very important because I am not suggesting we should just release a flood of money on medical care. If that was done quite a lot of it would be spent inappropriately and wasted. We must evaluate what we do. On the other hand, we must not have so little money that we cannot bring in new developments which clearly are going to benefit patients.

Chairman

2083. We must ensure that the money we are spending is being spent in the best possible way.

(Sir Colin Dollery) I think we have tightened the screws so hard now there is very little evident waste in the Health Service or in the universities.

Chairman] Where that squeeze has been a very studied and researched squeeze, I think maybe that may be asking too much.

Lord Kearton

2084. What kind of alarm bells would you like us to sound? We have had a lot of evidence and a lot of it has been rather emotionally delivered to us. If I may say so, Sir Peter and Sir Colin, your evidence has been almost unique in the calm and clinical way in which it has been presented as to the rather dismal facts. What sort of alarm bells would you like us to press? A shrill one? A low-key one?

(Sir Colin Dollery) I think it ought to be a loud one. It ought to be made clear to the Government that if we are to maintain a world-class university system—and that does not just apply to the clinical academic subjects—tightening the screw, which has been done progressively, largely by the mechanism of under-replacing inflation, can only lead to a second-class university system and to second-class medical schools and to second class teaching hospitals.

2085. And finally a second-class country?

(Sir Colin Dollery) Yes. But that does not mean we can let go of the need for selectivity, because there is no conceivable way this relatively small country, with its present not very high gross national product, can compete across the board in everything and in every institution. So I support very much what Sir Peter said. I think that the UFC will have to continue with the present policy of selectivity that the UGC pursues. There is no alternative to that.

Lord Adrian] My Lord Chairman, we need an alarm bell as effective as that rung by the President of the Royal College a few weeks ago.

Chairman] I think we had better leave it there. Our time has already overrun, but I am very interested in what you said, and I am sure other members of the Committee are. We are very grateful to you for coming along and giving us the benefit of your advice, in your very busy day. Thank you.

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HOUSE OF LORDS SESSION 1987–88

MINUTES OF EVIDENCE

TAKEN BEFORE THE

SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

(SUB-COMMITTEE II)

Wednesday 13 January 1988

DEPARTMENT OF HEALTH AND SOCIAL SECURITY
Rt Hon A Newton, MP, Minister for Health
Mrs E Currie, MP, Parliamentary Under Secretary for Health and Social Security
Dr J S Metters and Mr V J Harley

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WEDNESDAY 13 JANUARY 1988

Present:

Adrian, L.	Nelson of Stafford, L. (Chairman)
Erroll of Hale, L.	Rea, L.
Hunter of Newington, L.	Sherfield, L.
Kearton, L.	Smith, L.
Lockwood, B.	Taylor of Blackburn, L.
McFarlane of Llandaff, B.	

Memorandum by the Department of Health and Social Security

INTRODUCTION

1. This paper comprises two sections. The first is an introduction to DHSS research issues, including coverage, the Department's relationship with the Medical Research Council and the Economic and Social Research Council, and the roles of the Department's Chief Scientist and the Departmental Research Committee. Section 2 provides answers to the questions posed in the letter of 3 March from the Clerk of the Committee.

SECTION 1—DHSS RESEARCH

MAIN AIM

2. The main aim of DHSS health research is to provide guidance to Ministers on ways of improving the efficiency and effectiveness of the health and personal social services by promoting improvements in organisation, operation and administration.

COVERAGE OF DIRECTLY FUNDED DHSS RESEARCH

3. Annual expenditure by the DHSS on its own directly managed research programmes in 1986–87 was £20.6 million. DHSS directly managed research falls into four main fields:

(i) health and personal social services (HPSS) and Social Security—1986–87 expenditure £12.4 million;

(ii) NHS building and engineering—£2.1 million;

(iii) NHS equipment and supplies—£4.0 million;

(iv) NHS information technology—£2.1 million.

4. DHSS does not normally support clinical or biomedical research; that is, medical, biological and related research which is designed to increase scientific knowledge of the structure and function of the human in health and disease and of the agents and natural processes which tend towards the production or alleviation and cure of disease. The Medical Research Council, which receives grant-in-aid from the Department of Education and Science, is the main Government funded body dealing with medical research and undertakes work required by the Department in accordance with a "Concordat" (see paragraphs 8 and 9 below).

HEALTH RESEARCH INDIRECTLY FUNDED BY DHSS

5. A number of external bodies funded by DHSS commission research on their own behalf as follows:

5.1 The Health Education Council (from 1 April 1987 the Health Education Authority) spent about £1 million in 1986–87 on research into ways of promoting health education. This sum includes some joint funding of projects with the Department; for example, research on sex education.

5.2 The Centre for Applied Microbiology and Research (CAMR), part of the Public Health Laboratory Service, carries out research on microbiology and has a budget of £8 million. Some research is directly commissioned by the Department, for example recent work on meningitis.

5.3 The National Radiological Protection Board (NRPB) spends about £2 million of its £6 million budget on research into radiological protection. About 60 per cent of its funding comes from Government, the rest being from the EC and charges to industry. Its Government grant is from DHSS and the Scottish Home and Health Department with occasional items covered by funds transferred from the Department of Energy. The NRPB receives some direct commissions from DHSS for specific research tasks.

5.4 The National Biological Standards Board (NBSB) spends about one third of its £4 million budget on research. In addition to basic research this is for the standardisation and control of purity and potency of substances for human use, such as polio vaccine. Its work is closely linked to the issue of product licences, and the establishment of British and International standards.

6. None of these research programmes is directly managed by DHSS though occasionally the Department may commission work as part of the programme. In all cases liaison arrangements are in operation to ensure that the external bodies are aware of Minister's health objectives when formulating their programmes.

7. In addition Regional Health Authorities (RHAs) allocated about £8 million in 1985–86 from their own revenue allocations to locally organised research. Ministers delegated control of the research in 1978 but the Chief Scientist nominates a representative on each of the health authority committees which control the research. The Department collects information on the amount spent each year on locally organised research and RHAs are asked to provide periodic reports.

Relationship with Medical Research Council and the Economic and Social Research Council

8. The research needs and interests of DHSS and the other Health Departments are strengthened and facilitated by close collaboration with the Medical Research Council. The arrangements for co-operation between the Health Departments and MRC are governed by a "Concordat" which provides a framework within which MRC meets the Health Departments' needs for biomedical research and contributes to the strengthening of the base for health service research. The MRC supports biomedical research from its DES grant-in-aid and undertakes to spend part of its grant-in-aid on health services research in accordance with objectives identified by DHSS and agreed with the Council. The sum involved in 1986–87 was £2.7 million. Also the "Concordat" provides for the Health Departments to commission biomedical research elsewhere, funded from their own research budgets if they so wish, and for the Council to undertake specific commissions in health services research.

9. The collaborative effort is underpinned by the membership on the Council of the Department's Chief Medical Officer and Chief Scientist and also by the attendance of senior officials and scientists nominated by the Health Departments at the Boards which decide the content of the Council's programme. Additionally the "Concordat" makes provision for a high-level annual meeting between the Health Departments and the MRC to enable the former to inform the Council of problems and of current and future needs and opportunities in the field of biomedical research, and for the Council to bring to the Health Department's notice new and anticipated scientific developments which could affect health issues and report on their support for health service research.

10. The Department has a less formal working relationship with the ESRC. The Deputy Chief Scientist is currently a member of the Council. A number of projects have been commissioned by the Council to meet the Department's needs and several health related projects and a couple of research units are jointly funded by the Council and the Department.

The Role of the Chief Scientist

11. The Chief Scientist's functions are

- (i) to provide advice and guidance on the scientific feasibility and validity of all the Department's centrally funded research programmes;
- (ii) to conduct periodic reviews of DHSS funded research units and programmes.

He also represents the Department on the Medical Research Council, the Advisory Board for the Research Councils, the Chief Scientist's Sub-Committee of the Official Committee on Science and Technology and other associated committees.

12. The Chief Scientist is assisted by the Departmental Research Committee (DRC), composed of senior officials. The Committee's functions are:

> "To advise on the range and content of the Department's centrally funded research programme in the light of the Government's policy priorities and objectives and of the available resources".

The Committee's members are the Chief Scientist (Chairman), Chief Medical Officer, Second Permanent Secretary, Chairman of the NHS Management Board, Chief Social Services Inspector, the Deputy Secretaries of the HPSS Policy and Social Security Policy Divisions and the Chief Nursing Officer.

Reorganisation of the Department's Research Programme

13. A reorganisation of the Department's research arrangements began during 1986 to:

- (i) improve the content and relevance of DHSS-funded research;

(ii) concentrate on studies that relate to Ministers' current aims;

(iii) achieve a better balance between long and short-term projects;

(iv) ensure that the results of research studies should, where possible, be available more promptly to inform Ministers' decisions;

(v) achieve the most economical management of the research budget and the centrally funded research programmes.

Work on reorganising research arrangements is continuing and the Chief Scientist is initiating a series of reviews to implement the above objectives.

SECTION 2—QUESTIONS SET OUT IN THE 3 MARCH LETTER FROM THE CLERK OF THE COMMITTEE

GENERAL

14. The following questions posed by the Committee have been considered in the context of the Department's own directly-funded research, in particular its Health and Personal Social Services programme which has the highest level of funding.

a. *How are priorities for medical research set? How do these reflect the particular needs of the National Health Service, or more generally the health needs of the nation?*

15. The Departmental Research Committee advises Ministers on the balance and content of all the research funded directly by DHSS. In considering priorities the DRC draws on the bids for research and the Research Liaison Groups (RLGs) and of policy Divisions in areas where there is no RLG. The DRC has considered the competing priorities for health and personal social services research. It is currently looking at the content of the Department's other directly-funded research budgets—building and engineering, equipment and supplies, and information technology. RLGs—established following the implementation of the Rothschild Report in 1972—and other similar Departmental bodies, such as the Building and Engineering Research and Development Committee, undertake the important role of planning and commissioning research including the establishment of "customer" priorities; that is, priorities identified by the Department's policy Divisions. Membership of RLGs includes not just Departmental officials but also outside experts.

16. The MRC, the main Government funded body for biomedical and clinical research, decides its own priorities, based on peer review appraisals which consider, inter alia, the feasibility of the proposed research achieving its stated objectives. The annual high level meeting between the Health Departments and the MRC (see paragraphs 8 and 9 above), "the stocktaking review", allows the Department to present formally the current research priorities and future needs arising from Health Ministers' policies and objectives. Between formal reviews there is a continuing exchange between Health Department officials and MRC staff.

17. Therefore, priorities for research directly-funded by DHSS are geared to Health Ministers' policy priorities; MRC priorities are influenced by Ministers' priorities through the "Concordat". As Ministers' priorities are in turn informed by the particular needs of the NHS, there is a clear link between health service and biomedical research and the needs of the NHS and the health requirements of the nation in general. For example, the efficiency with which the NHS meets the health needs of the nation depends, inter alia, on the development of a sound basis of research into nursing and the means of caring for the sick. The Department supports research into nursing and one of the main objectives is to increase the interest of nurses themselves in research.

b. *Is the present balance between different branches of research right? Assuming that resources are limited, what programmes might be cut back, in order to allow those which should be given a higher priority to expand? What programmes need higher priority? Would priorities change in the light of increased resources?*

18. The first three questions are ones which the DRC is addressing with regard to the Department's directly funded research, with the aim of advising Ministers on priority themes. Priorities for different parts of DHSS directly funded research and the balance of funding between areas are also under review. An object of the reorganization of the Department's research arrangements is to secure a greater and quicker responsiveness to the needs of Ministers and to both short and long term requirements.

19. While it is unlikely that priorities would change if more resources were available, greater resources would enable areas of lower priority to be funded and for more projects in the higher priority areas to commence. Because resources are always limited no priority list can be completely comprehensive.

c. *Are priorities in medical research adapting to changing incidence of diseases, changing population structures and new technology?*

20. Every effort is being made by the DRC to ensure that the Department's programmes address current priorities which change with the advent of new diseases, such as AIDS, with changes in the population structure, such as the increase in the old and very old, and with new technology, such as magnetic resonance imaging. As indicated above, efforts are also being made to ensure that DHSS research is more responsive to Health Ministers' policy priorities. This means that research programmes should be sufficiently flexible to be able to adapt to meet changing situations. Research areas which the DRC has examined and which Ministers are considering all reflect the need to answer questions arising as a result of change.

21. The Department has a separate information technology research and development programme (see paragraph 3 above), the main purpose of which is to encourage the development of innovative forms of technology and new applications that have the potential to improve administrative efficiency, the efficiency of health care treatments or the quality of patient care. In addition the Department supports a programme of medical equipment research and development. Its aims include the development of equipment for which there is a known and unsatisfied need; to improve the performance and reliability of available equipment of United Kingdom manufacture; and to stimulate British industry, particularly the production of medical equipment with export potential. DHSS, on behalf of the NHS as the dominant customer for medical equipment, is often best placed to assess the need for a new item of equipment. The main purpose of the Department's building and engineering applied research and experimental development programme is to improve the efficiency of the huge NHS estate; for example, through the identification of standard design solutions such as ''nucleus'', and energy efficiency studies.

22. Also the Department has recently established a Health Technology Assessment Co-ordinating Group comprising Departmental officials and representatives of the MRC to consider and recommend action in the field of assessment and evaluation of new and established medical procedures and techniques. In assessing the benefits to care, as well as the costs of new methods of diagnosis or treatment and of new equipment, the clinical, technical and economic factors must all be considered. The Group's remit specifically includes medical treatments and drug therapies where these are based on products licensed by the Committee on Safety of Medicines. Health technology assessment studies will not be limited to new items of medical hardware but will also include studies of new clinical treatments such as the assessment of heart transplantation which was commissioned by DHSS.

d. *How are priorities in medical research influenced by the institutions through which research is funded? How does the balance between public, commercial and charitable funding of research affect the setting of priorities by the different institutions involved?*

23. As stated above, directly funded DHSS research priorities are set in relation to the Government's policy priorities for the health service. The level to which those priorities affect the setting of priorities by other research institutions varies depending on the institution in question.

24. Whereas DHSS can influence the MRC, through the ''Concordat'', it has little influence over the pharmaceutical industry's research priorities. Pharmaceutical companies, for reasons of commercial confidentiality, cannot be expected to disclose information about research activities on which their commercial competitiveness depends. Health research spending by Universities, funded by the University Grants Committee or NHS Trusts, would be very difficult for the Department to influence. There are numerous projects, both large and small, carried out in university and hospital departments; to find out what is going on and to explore the decision-making process in order to attempt to influence priority setting would be a very time consuming exercise. Also it could hardly be justified in the present circumstances as much of such research would be of limited relevance to the direct interests of the Department.

25. In 1984 the Association of Medical Research Charities had a membership of 34 bodies, whose total funds for medical care and research were £149 million. Of this, £89 million was spent directly on research. A number of medical charities do, of course, place special emphasis on a specific topic such as cancer or heart disease and, consequently, their priorities will be determined within a restricted sphere of research. The DHSS cannot as a rule directly influence the work of medical charities.

e. *Are the results of research adequately disseminated?*

26. For any research to be effective it is important to ensure that the findings are disseminated widely to the appropriate audiences. This applies equally to DHSS research and to that of the MRC. The Department pays particular attention to the dissemination of research results, not only to the NHS but also to wider audiences; for example, research and other funds are use to ensure that health authority and social services staff are aware of research findings relevant to their work.

27. A wide range of mechanisms can be used. As well as publication in peer review journals, which the Department encourages researchers to use whenever possible, publication through books, reports, practitioner oriented pamphlets, training materials, films and seminars are used as appropriate. For example, the Department has recently allocated funds for a series and a video film to disseminate results of an evaluation of hospital hostels for the mentally ill. Also a recent report about the continuing education of Ward Sisters has resulted in many health authorities changing their training methods.

28. An annual handbook of research and development is published by DHSS; the latest version will be published shortly.

f. *How is unnecessary duplication of research avoided?*

29. The "Concordat" (see paragraphs 8 and 9 above) between the Health Departments and the MRC is intended to avoid duplication, and under its terms DHSS takes responsibility for health services research while the MRC attends to biomedical research. There is regular communication and co-operation between Health Departments and the MRC in order to avoid unnecessary duplication of research effort. Where a subject such as AIDS research also concerns the ESRC there is a close co-operation between DHSS, the MRC and ESRC. The Chief Scientist and Chief Medical Officer sit with the MRC Council and are members of its scientific Boards. There are also Health Department nominees on these MRC Boards and professional officers concerned with research management maintain close contact with their counterparts in each organisation. Co-operation between DHSS and the Scottish Home and Health Department is exemplified by a variety of jointly funded ventures. It should be borne in mind that in some complex fields duplication can be beneficial; for example, where there is competition and incentives to achieve results. Contact with non-Governmental agencies that fund medical research is on an informal basis.

g. *Is research reflected as it should be in actual improvements in patient care or health education? If not, why not?*

30. Part of the answer to this question is given in paragraphs 26–28 above. In principle the answer is "yes" but the extent to which research results lead to changes which can be clearly shown to flow from a particular study varies widely. The following examples illustrate individual cases where research has demonstrably led to improvements.

- One example of the immediate practical value of health research was shown in the study of community care in Kent for frail elderly people living in their own homes. This has led to very successful new care arrangements, which have been adopted by several local authorities.

- Another is provided by patient based management systems covering community health services, operating theatres and ward nursing in acute hospitals. These have been developed as part of the Financial Information Project (jointly funded by DHSS and the West Midlands RHA). They bring together patient-based costing, activity and manpower data and are being adopted as a regional standard for all health districts in the West Midlands with other districts expressing a keen interest.

- Research has contributed as well to the more effective handling or alcohol and drug misuse. A guide, based on extensive local research and exploration, has been produced on ways in which problems with alcohol can be identified and dealt with. It shows how a wide range of local groups and organisations can develop their potential to contribute towards prevention. A series of exploratory studies has also been carried out to identify ways in which health authorities can best assess the nature and extent of drug abuse. Several publications have been produced, and these include a short guide for administrators concerned with planning or providing services and a longer manual for those making an assessment of drug abuse problems for a health authority.

h. *What changes in priorities in the training of medical researchers are needed?*

31. Specific training of medical researchers rests with the universities and research councils. However, clinical researchers share their initial training with doctors intending careers in the NHS, and a proportion of them may ultimately finish up in an NHS consultant post. Current general initiatives in post-graduate medical education are therefore of relevance to clinical researchers also. These include:

(a) the renewed emphasis on the role of the consultant as trainer of junior medical staff,

(b) the increasing awareness of the dangers of excessively early choice of speciality, and of the importance of a broad base of clinical training in the early years after registration,

(c) experiments to encourage future hospital specialists to obtain some first-hand experience of general practice in the PRHO or SHO grades.

i. *Should any specific changes in organisation or funding be made in order to increase the quality, quantity or application of research?*

32. The Department's Chief Scientist and the DRC are considering this question as part of their review of the Department's research arrangements (see paragraphs 11 and 12 above); at this time it is too early to give a substantive response to this question.

Supplementary Memorandum

REVIEW BY DHSS OF HEALTH RESEARCH FUNDING IN THE UNITED KINGDOM

Source	*Total R&D Budget 1985–86 (£m)*	*Total spend on Health Research (£m)*
Pharmaceutical Industry	490.0	490.0
University Grants Committee	669.8	153.7
Medical Research Council	121.5	121.5
Association of Medical Research Charities (see Annex)	110.0	110.0
Science and Engineering Research Council	284.5	25.7
Department of Health and Social Security	19.0	17.8*
Public Health Laboratory Service Board	16.4	16.4+
Trust Funds bestowed on Health Authorities	15.3	15.3
Ministry of Agriculture Fisheries and Food	121.7	14.9
Regional Health Authority funds dedicated to Locally Organised Research	8.0	8.0
Agriculture and Fisheries Research Council	49.5	6.5
Scottish Home and Health Department	4.9	4.4
National Radiological Protection Board	6.0	2.0
King Edward's Hospital Fund	1.7	1.7
Health Promotion Research Trust	1.4	1.4
National Biological Standards Board	4.0	1.3
Department of Agriculture and Fisheries, Scotland	35.9	1.2
Health Education Council	1.0	1.0
Economic and Social Research Council	12.25	0.5
Northern Ireland Department of Health and Social Services	0.4	0.4
Nuffield Provincial Hospitals Trust	0.4	0.4

* includes some £0.6m for Welsh Office Research.

+ includes £8m spent by Centre for Applied Microbiology and Research.

Annex to Table I

ASSOCIATION OF MEDICAL CHARITIES: RESEARCH FUNDING

Charity	*'85 Expenditure (£ millions)*
1. Wellcome Trust	28.2
2. Cancer Research Campaign	22.3
3. Imperial Cancer Research Fund	20.8
4. British Heart Foundation	9.1
5. Leverhulme Trust	5.7[1]
6. Arthritis and Rheumatism Council	5.5
7. Leukaemia Research Fund	4.1
8. National Fund for Research into Crippling Diseases	2.5
9. Muscular Dystrophy Group	1.5
10. British Diabetic Association	1.1
11. Tenovus Cancer Fund	1.05
12. Nuffield Foundation	0.9
13. Sir Jules Thorn Charitable Trust	0.8
14. National Kidney Research Trust	0.8
15. Multiple Sclerosis Society	0.7
16. CIBA Foundation	0.7
17. Spastics Society	0.5
18. Foundation for study for Infant Deaths	0.4
19. Asthma Research Council	0.38
20. Irish Fund for Prevention of Blindness	0.35
21. Brain Research Trust	0.35
22. Mental Health Foundation	0.34
23. Cystic Fibrosis Research Trust	0.3
24. Chest, Heart, Stroke Association	0.3
25. Blond McIndoe Centre	0.3
26. British Leprosy Association	0.28
27. Development Trust for the Young Disabled	0.2
28. British Digestive Foundation	0.14
29. Rehabilitation and Medical Research Trust	0.09
30. British Foundation for Age Research	0.07
31. Migraine Trust	0.04
32. Smith and Nephew Foundation	0.04
33. Association for Spina Bifida	0.03
34. Back Pain Association	0.02
35. Mason Medical Research Foundation	0.02

[1] Includes studentships.

MEDICAL STAFFING EUROPEAN COMPARISONS

The Committee asked for figures on medical staffing in Britain for comparison with other European countries, and in particular for numbers of surgeons.

MEDICAL MANPOWER AS A WHOLE

Medical manpower in the National Health Service in England in 1986 was about 68,000 or 145 doctors per 100,000 population. The Department does not collect information on doctors working outside the Health Service, but a rough estimate would be to add 15 per cent. of non-NHS medical employment, making the total some 165 per 100,000 population.

In the Federal Republic of Germany the number of doctors in 1984 was 252 per 100,000 population, and in France 226 per 100,000 (the Statistical Office of the European Communtiy). These numbers are clearly higher than for the United Kingdom, where the total on the Medical Register (not all of whom are working) was equivalent to 222 per 100,000.

SURGEONS

The Royal College of Surgeons in a report last year "General Surgical Manpower within the United Kingdom" RCS, June 1986) quoted the ratio of surgeons to population in different countries as follows:

SOME INTERNATIONAL COMPARISONS OF THE RATE OF PROVISION OF SURGEONS PER 100,000 POPULATION

		General Surgery	*Orthopaedic Surgery*	*Ophthalmology*
West Germany	1981	12	5	6
Netherlands	1981	6	2	3
United Kingdom	1979	2	2	1
USA	1980	11	5	2

The international comparisons may be affected by such factors as variation in the composition of the speciality. The United Kingdom figures are adjusted to "whole-time equivalents", which may not be the case for the other countries. But it appears that specialists constitute a smaller proportion of the medical workforce in the United Kingdom than in West Germany for example.

The inclusion of senior registrars would not alter the United Kingdom figures markedly. Senior registrar numbers as a proportion of the numbers of consultants are as follows (England and Wales, 1986):

General Surgery	19%
Orthopaedic Surgery	19%
Ophthalmology	22%

Supplementary Memorandum on Nursing Research

1. INTRODUCTION

The Chief Scientist, DHSS, submitted written evidence to the Sub-Committee on 7 May 1987. This gave a broad picture of the aims, priorities, scale and organisation of DHSS health research. The present document supplements the Chief Scientist's evidence by concentrating specifically upon research in the fields of nursing and nursing education.

2. BACKGROUND

2.1 Nursing and Midwifery staff represent nearly half the NHS workforce in England. In 1985–86 this staff group cost £3.210 million representing 45 per cent of the total staff costs incurred by the NHS.(1) Expenditure on this scale warrants research support to ensure its efficiency and effectiveness.

2.2 Since the second world war the need for research into nursing practice, the education and training of nurses, and into the organisation of nursing workforce has become increasingly evident. Advances in medical science, and changes in public awareness of health care in community, school, hospital and workplace have created new demands on nurses. The development of social science methods of investigation, increasing opportunities for higher education and the changing position of women in society have improved the means to meet the need for a research base to nursing. The Briggs Committee in its Report of Nursing was insistent that "Nursing should become a research-based profession".(2) The report of the Royal Commission on the Health Service(3) developed the theme:

> "few nursing methods have been examined for their effectiveness. A much more critical approach to nursing is required and nurses themselves should obviously be involved in researching it...". (para 13.56)

2.3 The OECD has classified research into three categories (the Frascati classification): Basic, Applied and Experimental/Developmental.

(i) Basic is defined as "primarily to acquire new knowledge...without any particular application or use in view..."

(ii) Applied is to acquire new knowledge but is directed "primarily towards practical aims and objectives".

(iii) Experimental and Developmental draws on existing knowledge to produce new materials, products and services...or to improve those already in existence.

The Government's Annual Review of Research and Development modifies the Frascati Classification by sub-dividing the Applied definition into (a) research directed towards *specific* practical aims. (Applied

Specific). (b) Applied research in a subject area which has not yet advanced to the stage where eventual applications may be clearly specified. (Applied Strategic).

2.4 The Universities and Research Councils in 1984–85 allocated 61.5 per cent of funds to basic work, 26.5 per cent to applied strategic and 11.5 per cent to applied specific. (Adapted from Table 1 "A Strategy for the Science Base" ABRC HMSO May 1987). A comparison is made with nursing research at para 5.5.

3. Role of DHSS in Development of Nursing Research

3.1 A principal purpose of the Department's Research and Development Programmes is to assist ministers in the task of increasing the efficiency and effectiveness of the NHS by promotion improvements to organisation, operation and administration. To this purpose nursing research contributes a good measure. Research projects on various aspects of nursing practice and education have been commissioned each year. Details are published annually in the DHSS Handbook of Research Development. The total expenditure on nursing research in 1986–87 was some £483,000 of a total expenditure on Health and Personal Social Services and Social Security research of £12.4 million.

3.2 The DHSS has played a prominent part for nearly two decades in the development and support of nursing research.

3.3 Three related strands of research endeavour have been initiated.

(i) education for research,

(ii) dissemination and use of research findings,

(iii) provision of focal points for the development of a research programme.

3.3.1 Education for research has been promulgated through a nursing research studentship scheme and the nursing research liaison officer scheme.

The Department's Nursing Research Studentship Scheme is modelled on the Research Councils' post graduate awards. 122 awards have been made since the late 1960's. Many of the alumni of this scheme now hold influential posts in Institutes of Higher Education, the statutory Nurse Education Bodies and the NHS.

In 1972 the Department set up an experimental nursing research liaison officer scheme to develop, advise, and co-ordinate research in nursing in the Regional Health Authorities. Five such posts were created, usually as joint appointments between NHS and higher education. The Health Authorities are now carrying forward this development. Nurse researchers have been appointed at Regional and at District level with a variety of advisory, development and research responsibilities.

3.3.2 Dissemination and use of research findings has been promoted by the Index of Nursing Research and by a pump priming investment to set up the Research Series Monographs published by the Royal College of Nursing.

The Index of Nursing Research is based on United Kingdom material published since 1968, and is now part of the work of the DHSS library. An Abstract of Nursing Research derived from the Index is published quarterly and is now distributed to almost 800 libraries, educational establishments, health authorities and individuals.

3.3.3 The provision of focal points for the development of a research programme constitutes the major element of the Department's investment, with two research units and a series of commissioned projects exploring particular problem areas in nursing.

The Nursing Education Research Unit (now the Nursing Research Unit) was established in 1977 within the Department of Nursing Studies at Kings College University of London. The present Director is Professor J Hayward.

The Nursing Practice Research Unit was established in 1979 and is now within the Division of Nursing Studies, Department of Biochemistry, University of Surrey. The Director of the Unit is Professor Rosemary Crow.

At least two of the DHSS funded health services research units employ nurses in core staff posts and agreement has recently been reached to fund a core post for a midwife researcher at the National Perinatal Epidemiology Unit, University of Oxford.

The Research Units are valuable resource centres for the nursing profession and for the NHS, providing help, advice and supervision.

Nursing Research has effected improvements in for example, the selection of applicants for student nurse training, in the curriculum development of basic and post basic course for nurses, the nursing care of patients at risk of developing pressure sores, and in the control of infection.

4. OTHER DEVELOPMENTS

4.1 Contemporaneous with the development of nursing research by DHSS, several university Departments of Nursing have been set up. A number of universities award internal nursing degrees, while others offer linked degrees—with a traditional academic subject and nursing.

There is a gradual increase in the proportion of nurses who are proceeding, as part of their career development, to post registration degrees and post-graduate research.

5. FUTURE NEEDS

5.1 DHSS continues to be the major source of funds for nursing research. Other agencies (for example, the Research Councils, industry and charitable bodies) are not yet effective sources of support, and there is clearly room for them to encourage applications for the support of research in nursing, especially from non-traditional sources. Since few nurses have the experience to prepare an acceptable application for a major piece of research they may need help in doing so.

5.2 It is understandable that nursing staff are sometimes reluctant to apply for the few full-time research posts which are available since this may remove them from the usual career paths. The Department seeks to offer a reasonable degree of security of staff and continuity of effort through its rolling contracts with research units. These cover a period of six years and may be rolled forward every two years.

5.3 The questions posed in clinical nursing, and which therefore need to be addressed in research, cross traditional disciplinary boundaries. They may for example relate to biochemistry, microbiology, bio-engineering and psychology. The Department has therefore taken steps to ensure that nursing research is undertaken by multidisciplinary teams including scientists drawn from the relevant disclipines as well as clinical nurse researchers. To facilitate such collaboration units and projects should preferably be sited within research communities where scientists can remain fully in touch with their own subjects, and maintain their career prospects.

5.4 Clinical nursing research needs also to be conducted within an environment where care is the focus, along with the concomitant responsibilities for the patient's safety, so as to ensure that research questions are directed at real problems and that the results of research are relevant to nursing practice. In encouraging the wider support of nursing research the Department will seek to secure the relaxation of rigid disciplinary boundaries which currently inhibit the provision of research posts in nursing practice. It will also wish to encourage developments which supplement its own post-doctoral fellowship scheme and doctoral research studentship scheme, so as to bring about an increase in the numbers of those available to undertake post-doctoral nursing research and those who have a track record which allows them to fill senior research posts, including that of Unit Director.

5.5 At present almost all nursing research is "applied specific" (see paragraph 2.3 above)—and is therefore out of balance with research generally—and based on the customer-contractor relationship. While the importance of applied specific research to nursing cannot be over-emphasised, exclusive attention to this category may in the long run be uneconomic since the number of specific problems is limitless. Greater attention will need to be paid to strategic and basic work from which general theories and principles can be derived and applied to a range of nursing issues. The Department recognises that if nursing is to succeed in becoming more effective and efficient through the application of science to its endeavour, it must improve its place, and standing, in the science base of the country.

REFERENCES

1. Health and Personal Social Services Statistics for England 1987 Edition.

2. Report on the Committee on Nursing (1972) Chairman: Asa Briggs, Cmnd 5115 (para 370).

3. Royal Commission of the National Health Service (1979) Chairman: Sir Alec Merrison, Cmnd 7615.

4. Health Service Circular 15.148., May 1975.

5. Salter, Brian "The Funding Market for Nursing Research", Journal of Advanced Nursing, 1985 *10* 155–163.

6. HMSO. "Strategy for the Science Base", 1987.

Letters from the Department of Health and Social Security

Thank you for your letter of 7 January. The information you asked for is as follows:

(i) Total SIFT allocation to the Regional Health Authorities (England, 1986–87) was £274M.

(ii) Research Division's total expenditure on Health and Personal Social Services research was £12.35M in 1986–87. However, we do not have separate figures available for expenditure on Personal Social Services so I should emphasize that this total includes both Health and PSS Research. Also, not all the Health research funded by this Division is Health Services Research (HSR). While most of the Health expenditure is on HSR some money is spent on other types of Health research. This figure does not, of course, include HSR expenditure by other DHSS Divisions. These figures do not include Social Security research.

(iii) I attach the most recent replies given to Parliamentary questions on management consultancies [*not printed*]. You will see that the Department's total expenditure in 1986–87 on management consultancies on Health, Personal Social Services and Social Security subjects was approximately £17M. Consultancies on Health subjects, including Health Information Technology and Operational Research amounted to £4.525M. Of this total approximately £2.5M was spent on consultancies in Health Information Technology and Operational Research.

Yours sincerely

J S Metters
Director of Research Management
January 1988

I understand you wrote to Mr Partridge on 7 January seeking information about the Steering Group on Medical Education, the establishment of which was announced in a Written Answer on 18 November 1987 (House of Commons Hansard ref: vol 122 col 577–8).

The Group's remit is: "to bring together the national agencies with an interest in medical education and to consider how the current arrangements for undergraduate medical education can be improved to ensure that the policies and programmes of the bodies concerned are properly co-ordinated and directed".

The members who will meet under Mr Partridge's chairmanship include representatives of: the Department of Health and Social Security; Scottish Home and Health Department; Department of Education and Science; University Grants Committee; the National Health Service; University Vice-Chancellors and Principals; General Medical Council; and General Dental Council.

The Group will hold its first meeting shortly. Among other issues it will be considering how the teaching and research interests and commitments of academic clinicians can be arranged to the best effect. It will report directly to the relevant agencies as necessary on the issues considered, and will not produce a single comprehensive report.

I hope this answers all the Sub-Committee's questions, insofar as they can be answered at this stage.

Yours sincerely

J S Metters
Director of Research Management
January 1988

RESOURCE MANAGEMENT

I understand from Sir Donald Acheson's office that Lord Hunter of Newington telephoned them before Christmas concerning an article that had appeared in the Independent on 16 December. This concerned a management experiment in a Newcastle hospital. Subsequently you spoke to this office as members of the Sub-committee had asked to know more about this activity.

The newspaper article, in fact, refers to one of a number of management projects the Department's Finance Division are running on Resource Management subjects. I enclose a short briefing note and other papers which provide further information on these [*the latter not printed*]. I hope these will provide the Committee with sufficient detail for their purposes.

Yours sincerely

Richard Armstrong
Private Secretary

January 1988

RESOURCE MANAGEMENT

1. A new initiative to promote resource management in six acute hospitals was announced in the Department's Health Notice HN (86)34 issued in November 1986, a copy of which is attached. The initiative is being sponsored by the Joint Consultants Committee of the BMA, the NHS Management Board and by local management in the Health Districts concerned.

2. The overriding objective of the new initiative is to promote improvements in patient care by ensuring that resources are managed effectively. Particular requirements and aims are: to provide information for clinicans which will enable them to identify areas of waste and inefficiency; benefit from clinical group discussion and review; to highlight areas which could most benefit from more resources; identify and expose the health care options to enable informed debated to take place about them.

3. Resource management will only be acceptable to doctors if it is perceived by them as informing clinical decisions. Achieving this requires sophisticated information systems with the capacity to identify the costs of treating specific groups of patients and to analyse them in sufficient detail to show where, and to explain why, they vary. It also requires that the information is readily available and relevant to clinical decision making. Patient classification systems, such as DRGs, are therefore being experimented with, and standard treatment profiles against which actual performance can be assessed are being introduced. Alongside the new information systems changes in management and organisational structures that result in the closer involvement of clinicians and other professional groups are being introduced at the pilot sites.

4. There will be an objective evaluation of the new approach before decisions are taken on whether, and in what form, it should be extended to other acute units. The overall target for the pilot units is to release at least one per cent of annual expenditure for redeployment on patient services through the operation of the resource management approach.

5. Further details of the initiative and of progress at the pilot sites is contained in August 1987 edition of the NHS Management Bulletin, a copy of which is attached.

DHSS Finance Branch FA3C

January 1988

Examination of witnesses

The Rt Hon ANTONY NEWTON, a Member of the House of Commons, Minister for Health, Mrs EDWINA CURRIE, a Member of the House of Commons, Parliamentary Under-Secretary of State for Health and Social Security, Dr J S METTERS, Deputy Chief Scientist, and Mr V J HARLEY, Assistant Secretary, Research Management Division, Department of Health and Social Security, called in and examined.

Chairman

2086. Minister, may I express right from the start how grateful we are to you for coming and meeting us this afternoon with the great pressures which we fully understand you are under at the present time. We would not have asked for this meeting except for the fact that we are now in the final stages of forming our opinion and drafting our report, and it is very important that it should come out as soon as possible. We hope it will be helpful to you. So we are extremely glad that you were able to meet us this afternoon. May I welcome your team and welcome Mrs Currie joining you as well. You know our terms of reference and our thoughts this afternoon will be directed to those, particularly based on the large amount of evidence which we have now gathered. We have been on this subject now for the best part of a year, apart from the interruption of an election, and it has been an extremely valuable and interesting exercise, particularly at the present time when there is a lot of interest in and focus on the National Health Service as a whole. But our concern, of course, is for the research side and as particularly related to the needs of the National Health Service. I think we might start off on that particular point because what does not come out very clearly in the evidence we have had is who has the responsibility of establishing what the needs of the NHS are in relation to the research programme. Perhaps you could give us your views on that particular question as a starter.

(Mr Newton) Chairman, before I seek to respond to that obviously very important question, may I just thank you for your courtesy and say I too am glad to have been able to come, specially since we had an earlier postponement for reasons which I cannot remember—I think they had to do with my making yet another statement about Health Service funding or something of that kind. May I also say I am grateful to you for allowing me to come with a number of others, including Edwina Currie who in fact takes a particular day-to-day interest in terms of ministerial responsibility in research matters in the DHSS, and of course our officials, Dr Metters, who is the Deputy Chief Scientist and Director of Research Management, and John Harley, an Assistant Secretary in the Research Management Division. Coming to the question which you have asked, I think I have to respond by saying this: in

[Chairman *Contd*]

your question I think you referred to the needs of the National Health Service and I think it might perhaps be a better reflection of what I take to be the thrust of what you are asking if we talk about the needs of health care in terms of research. Obviously that is reflected very largely in the NHS, those needs are plainly very many and varied, and I have to say I doubt if it would be appropriate to insist that the responsibility for formulating those needs either could or should rest in any one pair of hands. Certainly I have to acknowledge it does not at present. They are identified in a variety of different ways, which will be more than familiar to you, by the Medical Research Council in some very important respects, by the medical charities who are a very important source—as the evidence already presented to you makes clear—of research funding, by bodies like the Public Health Laboratory Service, of course by the Department itself, particularly perhaps in relation to matters concerned with the working of the Health Service, and to a degree through regional research programmes operated by the regional health authorities. It seems to me perhaps the most important thing of all, given this plurality (and you may want to probe how far that plurality is desirable of course), is that those concerned should be aware of their own and other people's responsibilities and, even more important, of not only what they are doing but what other people are doing so that they can take that into account in formulating their own programmes so that there is not unnecessary duplication. So far as the relations with the Medical Research Council are concerned—which, as I say, I am sure you will want to come back to—you will be aware that the Department brings together the biomedical research needs of the NHS in an annual stocktaking meeting with the Medical Research Council of a kind which, on the relatively limited experience I have had, is a fruitful and productive way of achieving a degree of co-ordination of policy interests with the Medical Research Council's concerns in that matter. So far as research more narrowly directed to health services is concerned (and I refrain from using the phrase "operational research" because it has a technical meaning) but regarding Health Service matters, I would say Health Service operation matters, there is a similar annual exercise to identify the priorities for funding through the Department's own health and personal social services research programme, and identifying both biomedical and health services research priorities. Of course, the Department draws on the Chief Scientist's research advisers and on the many contacts it has throughout the NHS. So there is a range of effort to ensure a well informed approach to research policy amongst all the many bodies that actually determine how research money is spent. But at the end of all that I come back to the fact that there is no single pair of hands, no single office, in which the research needs of the NHS as a whole or health care as a whole is formulated and determined.

2087. I think that would fall very much within the compass of the evidence which we have had. I think it is clear that the multi-facet research programme from a large number of different sources is the right way to go about it. There is no uniqueness of knowledge in this respect. But at the end of the day how do you satisfy yourself, or how is the Department satisfied, that the scale is in fact right and the priorities are right? You get all these proposals coming up from all different sources, which is fine. But some things will be left out, some things will be perhaps too prominent, too big, due to strength of the personalities and pressure groups involved. At the end of the day the question is, is the scale right relative to the size of the National Health Service and, if it is not, what is done about it?

(Mr Newton) I think it is very difficult indeed to suggest realistically, certainly to a group such as this, that I can readily say there is any basis on which the "right" amount of money to spend on research could readily be determined any more than the "right" amount of money to spend on the Health Service could be determined. They are matters of continuous debate, just as it has become, I think, a truism, a cliche, for people to say the demand for spending on health care is limitless—and that is obviously one of the dilemmas which informs many of the other activities to which you adverted at the beginning of the meeting. So I suppose it would be true to say the amount that could be spent on medical research or research connected with health services in various ways is virtually limitless, and essentially it is an act of judgement at any particular point in time about the balance between research spending as against other possible ways of using the total resources available for health and research matters, just as that is the case with the spending of the Health Service itself as against other claims on public or other funds.

2088. On the other hand, of course, you will be well aware that, as in other fields of the National Health Service, very considerable concern has been expressed to us on the cutback in MRC expenditure, the cutback on the dual support systems and the effect this could well have on the longterm Health Service itself.

(Mr Newton) I recognise that. Equally though—and I apologise if this is no more than a way of restating what I said a moment or two ago—I hope that you would recognise that, if the funding for the MRC, or for that matter the NHS as a whole, were increased by a given factor which some people would see as desirable at this point in time, it would only be a few minutes, or at most a few months, or a year or two, before new possibilities had been identified and much the same claims would be being made for a further increase in expenditure. I frankly see that as likely to be an almost perpetual dilemma of anyone concerned with the Health Service, or health research for that matter. I do not suppose I am the first Minister of Health to have arrived at that perception, even after a relatively limited time in office.

Lord Hunter of Newington

2089. Minister, you have a range of research advisers, do you, in the Department?

(Mr Newton) Yes, indeed. If you ask how many, I shall hastily turn to Dr Metters.

2090. Do they have regular meetings every two or three months or do they advise when they are consulted? What sort of relationship do they have?

(Mr Newton) Perhaps I could ask Dr Metters to add a comment on that or indeed Mrs Currie, if she wishes to, in a moment or two. They certainly meet with Ministers at the points in time when we, the Department, are collectively seeking to arrive at decisions about what the priorities are for a forthcoming period against the background of the funds we have available, but perhaps I can ask Dr Metters if he would like to add some comment on the internal working through the year, as it were.

(Dr Metters) I think, my Lord Chairman, your Committee already has the Department's Handbook of Research for 1986 which does list all the research advisers in the second chapter, I think it is. In terms of numbers, there must be more than 50 in all. They do not meet collectively at any stage during the year, but they are advisers on particular areas of research such as mental handicap research, and in that capacity they advise the relevant research liaison group or similar committee about the work within their particular areas. There are also the advisers recently appointed to the Departmental Research Committee. They are Professors Wing and Webb. You will not find their names in the handbook because they have only been appointed in the last year.

Chairman

2091. They are from outside, are they?

(Dr Metters) They are external advisers appointed to the Departmental Research Committee.

(Mrs Currie) It just occurs to me that the Committee is probably aware, of course, that it works the other way round too, because then the research advisers advise Ministers when we are raising an issue or we are perhaps preparing for a debate or a discussion on an issue like women's health, for example, which is my area, in that they are able to tell me what is going on, what is finished, what is available, what is high quality, what is not. That really then helps fulfil the purpose of the research which is ultimately to influence policy.

Lord Kearton

2092. Some of the evidence we have had is that over the next few years there could be an absolute shortage of fully qualified enthusiastic and competent researchers. Is there any evidence of that kind which has come to your notice? It has been a point made to us repeatedly by various research groups.

(Mr Newton) Can I be clear whether the question is related to demographic trends, in the sense that we are all conscious of what are the pressures in, for instance, the nursing area?

2093. No. Essentially a lack of career opportunities—a lack of career structure and career opportunities in clinical research, especially.

(Mr Newton) It may be that we shall come to what I take to be quite a closely related aspect, though it does not totally overlap with the point you have raised, in the references which will no doubt be made at some stage to academic medicine within the hospitals and "Achieving a Balance" and all those areas. We are certainly seeking to improve career opportunity. I have not heard the point made in quite that form in relation to research, only as distinct from the rather wider issue of the hospitals and the academic side thereof.

Baroness Lockwood

2094. Can I come back to the question of the overview of research? We do appreciate what you have said about the plurality of organisations involved with the research programmes, and we have taken evidence from many of these organisations. It has been put to us, for example, that the medical charities, because they concentrate on particular research aspects related to their objectives, tend to distort the research programme as a whole. The Committee I think I can say has been very impressed by our visits to some of the charities and the work that they are doing, but from time to time the whole question has come up as to where the research is co-ordinated, and who is responsible for ensuring that there are no gaps and if there are gaps, how they are plugged. Whilst there might be a strength in plurality, there has appeared to us from time to time to be a weakness.

(Mr Newton) I totally accept that. The last thing I would want to do especially to this gathering is attempt some kind of political lecture about the nature of our society, but as with any other way of running a society, there are up sides and down sides and one of the disadvantages of plurality against all its advantages in terms of freedom and choice and all the rest of it is that you do not get perfect co-ordination and there can be overlap and sometimes duplication. I personally would accept those disadvantages. We obviously want to keep them to a minimum. I have indicated how we seek to collaborate with the MRC in terms of the annual stock-taking exercise which is an attempt to at least make sure that the MRC's decisions are taking account of what the Department sees as its priorities. We have, in fact, had an approach from the medical charities to establish closer machinery with us for co-ordinating the approach to research and that is something we are actively looking at at the present time. I am not sure how far all the medical charities are keen to go down that track, but certainly it is an approach we have had as a generality which I see some merit in. Can I just make one other observation on a phrase you used in the question, Lady Lockwood, about the activities of the medical charities distorting the pattern of

[Baroness Lockwood *Contd*]

research? Again, it is a political observation which may stray beyond my remit and which I venture therefore with some hesitation, but given that the aim of all this activity in our kind of society (whether it is health service provision or in the end research, as it were, to meet a public demand in some sense or to serve the needs of the people, to the extent that the medical charities' money reflects the people voting with their pockets) is to provide money for movement in a particular direction I find it rather odd to regard that as a distortion though I would accept that one of the things we ought to be trying to do is to form a view about the importance of things for which the public does not vote so readily with its pocket, and perhaps therefore direct the public funds, the publicly financed money, to those areas which are not attracting the money in the same way.

Chairman

2095. That was a thought which was in my mind. How do researchers, in fact, identify areas of research where it is considered the field is not properly covered, and yet there is a need within the service?

(Mr Newton) I think we would regard that as something where we would seek to exert influence. I suppose the most notable example, simply because it is so notable and I am not sure I can match it with very many others, is the effort that has been made through the MRC as it happens to direct money into AIDS research at a time when that was seen as, and is continuing to be seen as, an area of need, but the money that was made available to the MRC——

2096. Yes. That is what I would call rather an obvious need, bearing in mind the publicity directed to it. I am really rather thinking of the less obvious things, where you are not likely to get proposals but on the other hand it is identified within the service that this is a very important matter which should receive attention.

(Mrs Currie) I was thinking actually that I think Ministers do play a part in this again in rather a similar sort of way, and sometimes the sort of research projects that look obviously attractive are not always actually very practical or acceptable at the time. For example, a discussion is going on at the moment about perinatal and neonatal mortality. To get really good information on that you need medical audit. It is only really done at the moment in Scotland and the Northern Region. I know the Royal Colleges have been looking at this, but medical audit in this field is first of all very difficult, but also it raises all sorts of questions. I suspect that five years ago, had it been proposed generally for the whole country, it would have been not possible to carry it out but the recent publication of CEPOD, the study of peri-operative deaths, and the way that has been accepted may very well have changed people's attitudes a bit. In other words, we can identify gaps and the public identifies them for us. Whether we can develop reasonable research programmes that help to fill those gaps is actually another matter entirely. Whether we have the money then to do it is a third matter, but before we get to the decision about the funding we have to work out what is actually practical and what can be done, and I think we are making a lot of progress in many of those areas.

Lord Hunter of Newington

2097. Is there an input to the Management Board in any of this?

(Mrs Currie) Yes.

(Mr Newton) Yes. The Management Board would normally expect to take an interest in the priorities within the DHSS's own research programme; less so I think in relation to biomedical research in the broader sense that we have been talking about here this afternoon so far.

2098. But it would not have a forward looking group considering how, to take one example, biotechnology is going to change medical practice in the pharmaceutical industry?

(Mr Newton) It certainly does not at the moment, no.

Chairman

2099. I would say here with reference to what Mrs Currie said that we were rather impressed by the way this works in Scotland. They seem to have a much better flow of information backwards and forwards there than probably exists elsewhere. Maybe it is because of the compact nature of their organisation. It was pretty impressive. May I take this a stage further and perhaps deal with another question which is related and that is how in fact the scale of MRC funding is related to the needs of the Health Service. We did not get a very clear picture as to in fact how that is established, the MRC of course being related to the ABRC, the ABRC being part of the DES, and the DES putting in their claims to Treasury and a sum of money coming out at the end of the process which did not seem in any way to be tied into the established needs of your Department. It seemed to go up quite separately and come down again from the Treasury quite separately.

(Mr Newton) There is no direct relationship between the MRC funding and some carefully identified assessment of health care needs as a whole, as I think I indicated in response to your first question. In allocating funds to its research councils, as you say, the DES is advised by the ABRC of which the DHSS's Chief Scientist is in fact a member. We provide the Medical Research Council with specific funds for some really quite modest research programmes, but the extent of that I am sure you will be familiar with from the evidence. It is very limited indeed. One point I perhaps ought to add is that when we face as a Health Service or a set of Ministers, a Department, what we see to be an urgent problem of a clinical kind, we do have standing arrangements with the Medical Research Council so that the subject can be taken up and very quickly reviewed with them. I can

[Chairman *Contd*]

give a couple of examples, both of which to some extent are current, one particularly so. One relates to the relationship between the early prolonged use of oral contraceptives and the development of breast cancer, which has been suggested in a study recently published and is supported by some other research findings, but not all. We were particularly concerned that some of that uncertainty really about the cause and connection, if any, should be resolved as soon as possible, and what we have done has been to ask the MRC to reconvene its advisory committee on contraception in order to review all the available evidence and decide what further research is now required so there is, if you like, on a specific issue that is seen by us as one of specific urgency, a positive approach to the MRC with a view to enlistng their help in assessing what ought to be done. Even more current perhaps, on meningitis officials have been in regular contact with the MRC since the last annual stocktaking meeting and we have emphasised the importance we attach to any promising research about the spread of meningitis and the reasons for individual susceptibility to it. The MRC have in response arranged to convene an expert review meeting to consider how meningitis research can best be tackled. The problem—and this picks up something Mrs Currie touched on just now—is, in fact, that new research ideas are urgently needed. We have been following the recent meningitis outbreak and have been in touch again with the MRC to offer what is called in the jargon of the trade, I believe, a specific research commission if their expert group is able to identify work that is likely to resolve some of the as yet unknown features that cause this disease to spread. So again we would then envisage, if a good research project can be identified, seeking to find the money to assist with that particular project, which is again another example of an attempt in that sense to identify a particular problem which needs particular attention and to collaborate with the MRC in finding ways of tackling it.

2100. But would more money be found? These are what you might call fire brigade efforts, they meet particular crises that come up. Or do the MRC say we must switch some of the money being spent in other areas into these areas if no more money is forthcoming?

(Mr Newton) We would have to make a judgement on the balance of the importance of the particular problem against other problems, but I think by definition we would not have approached the MRC on the two issues I mentioned if we did not feel that on the presentation of evidence a good research project was there and could sensibly be supported to tackle that problem if we sought to make the money available to support that research.

2101. What you say does not quite meet the thrust of my original question, which was really a more broad issue, and that is the funding for MRC is decided within the DES—and one might also add the University Grants Committee funding is decided in the DES, of which a proportion goes to medical schools. How is it decided that the level of funding, which is in fact decided by another Department, is in fact meeting the needs of your Department which is in fact responsible for the Health Service?

(Mr Newton) That is something on which we would expect to see our views reflected through the regular contacts between the two Departments and in the stocktaking work between our scientific people and those concerned with the MRC.

2102. Would that really work though? What I am thinking is that the demands from the MRC and UGC go up through the ABRC and finally up to the Treasury, and the Treasury say "You can't have that amount of money, you can only have two-thirds", or whatever it is. Do you come in at that level and say "Hey, wait a minute, you can't cut that by 25 percent, it's absolutely vital for the National Health Service, we must have these funds"?

(Mr Newton) In the course of collecting——

2103. By the time it has got back to the MRC, as you say, the damage is done, the level is determined, it is only a question of "Well, how do we manage with this level?" which is possibly inadequate—I do not know.

(Mr Newton) We are clearly treading in a fairly delicate area of the PESC round about determination of the public expenditure levels overall, but it is always open to colleagues to indicate their views about particular matters in the course of discussions that go on at that time of year.

2104. Your particular problem, it strikes us, is the division between the two Departments. You are responsible for operating the Service and somebody else is responsible for dealing with research and educational training, for which there are very good reasons—we would not necessarily challenge that as being the wrong way of doing it, but it does mean it is very important that requirements of the one are related to what the other is in fact doing.

(Mr Newton) I would certainly accept there are good reasons for the way in which things are organised at present. No doubt a case could be made for other ways. I understand at one stage, I think under a previous Government, an attempt was made to have the DHSS become more directly involved in some part of the expenditure by the MRC, which was judged after a few years to be a very considerable failure, and the money was transferred back to the MRC. That is perhaps an indication of the practical experience that there has been. Frankly, I do not believe there is a perfect answer to your question. I do not believe there is a perfect solution to the problem which leads you to ask the question.

2105. But there is a need for awareness of the problem, is there?

(Mr Newton) That I recognise.

Lord Hunter of Newington

2106. Minister, the Advisory Board on Research Councils has suggested widespread changes in research, in the science base, in the civil base, in this country, particularly within the universities, and an aggregation of resources. We wonder how this is going to affect the research base of the National Health Service which is essentially either in the institutes of the MRC or, more importantly perhaps, in the clinical schools of the universities.

(Mr Newton) May I just be sure I am absolutely clear what you have in mind, because the research base of health care in the broadest sense, again going back to that phrase I used earlier on, to a very significant extent also concerns the work done by the pharmaceutical companies of which a very substantial part is in one sense underpinned because the Health Service is the biggest customer of the pharmaceutical companies and, therefore, research and development costs are extensively reflected in the Pharmaceutical Price Regulation Scheme. So I think we really need to look beyond the public sector and certainly beyond the academic areas to define the research base of health care in the sense in which I think you were using the phrase in your question.

2107. Already the UGC funding of the clinical schools has been cut very substantially over the last ten years, and in the more recent years Health Service staffing has been cut—those who are doing clinical research. The evidence is that a large number of very important things in relation to the Health Service are done in university clinical departments, either by staff there who are paid by the university, or by the staff of the National Health Service who use the facilities there. Is there anxiety in the Department about the future (a) of people to do the work in clinical research and (b) to provide the modern technology and the equipment for the future so that it can be done?

(Mr Newton) There are a number of worries, as I am sure the Committee is aware, about the relationship between the patient service activities of teaching hospitals and the teaching and research that goes on particularly but not only in those hospitals, and there have been a number of anxieties expressed which we have sought to address in various ways. Some of them (and I am now perhaps referring more to teaching than research but it is difficult to separate the two completely) do arise from the changing pattern of the provision of hospital care itself. Attempts, for example, which are generally supported to try and get more people treated in the areas where they live have tended to put pressure on hospitals in the big metropolitan areas, I suppose most notably in London which, as it happens, is where most of the teaching and research has historically been done, and only very recently I was receiving representations from a distinguished doctor with a strong interest in the academic field that teaching was suffering because patients were not being kept in hospital long enough, as it were, as a result of the modern approach to medicine, and therefore the students never really got time to practise on them! It was essentially that kind of argument, and some various of that argument, and the problems that that creates for both medical education and research. What we have sought to do in our guidance both to health authorities and to universities issued, in fact, only earlier this year, in March, is to urge closer co-operation in the planning of staff and other resources, and I myself have urged in a number of ministerial review meetings, for example with Regional chairmen, that more attention needs to be given to resolving these tensions—I do not think they can be completely removed—between teaching and research interests and patient service interests, especially in some of the big teaching hospitals. I think you will be aware, if I remember rightly your Clerk has asked us for some further information about it—that only a month or two before Christmas I announced in a PQ the establishment of a steering group on medical education—with a remit which I could give you if you pressed me but I will not weary you by reading it out now—which is, among other things, to consider how the teaching and research interests and commitments of academic clinicians can be arranged to best effect, and that body, which is under the chairmanship of the second permanent Secretary in our Department, does include representatives of the health departments generally, of the UGC and of the NHS as distinct from the health departments, of the university Vice Chancellors and Principals and the Registrars of the General Medical Council and the General Dental Council. It is part of an overall effort to come to grips with some of the problems which I think underly your question. I acknowledge the problems; I do not think any of us can be absolutely certain what the solutions are, but we are seeking to approach them in a more effective way.

2108. One worry is that in the last ten years the junior staff of the medical schools who have prospects of tenure were doing a great deal of this work. Now, this work is being done in the medical schools by the people employed by the foundations on a short term basis, and therefore the whole question of career prospects which has tended to be handled by the university side is becoming acute in relation to the people who have done the work in the NHS.

(Mrs Currie) On the nursing research side, and as you know we have two nursing research units based in universities, we have actually been recommended that we should have people on short term contracts, because otherwise the very able people concerned will get worried about coming out of clinical practice and lose that side of their career, so the advice we had was to have 6 years rolling for 2 and so on, which is mentioned in the Chief Nursing Officer's papers to you. That was certainly how we would be advised to do it otherwise we would find it quite hard to persuade them to give up their caring career to come and do the work.

[Lord Hunter of Newington *Contd*]

2109. The trouble really is, and we saw this at the clinical research centre, that the man who used to work in the biochemical lab. doing cell biology is now working in the clinical school in the next block with a problem which has been investigated, and I think what we are trying to do is look ahead and we are wondering if you are looking ahead to the prospect of this kind of thing creating a revolution in the Health Service.

(Mr Newton) I should not reverse the questioning, but this is a very interesting point you raise, so may I ask whether you see this as part of the wider problem of the career structure in the hospital doctor side of the NHS, which is an acknowledged problem and one on which a great deal of work has been done and where the interests of research aspects were properly represented, as it happens, by Sir Raymond Hoffenberg, the President of the Royal College of Physicians? I am talking about the "Achieving a Balance" exercise which was designed to improve career prospects in hospital doctoring and to do it in a way which did recognise very clearly, or sought to, the interests of those concerned with research as well as those concerned with patient care.

Chairman

2110. Could I raise another aspect of this which worried us a little bit? In talking to the MRC, they put a great deal of stress on the advantages of investigator-led research being the best way of getting the best results. People wanted to do the work and were inspired to do it, and this was the right thing, which is fine up to a point (the point being whether there are neglected areas which are not being met by this investigator-led approach). Now, that should be a matter which would concern you, I think, and I wonder whether you have any views on this approach that the right way for apportioning funds is on the basis of investigator-led proposals as distinct from identification of need?

(Mr Newton) I would rather doubt, or beg leave to doubt, that it was possible to lead all research coming under your inquiry. As a broad generalisation, I think it is probably sensible that most biomedical research should be investigator-led but that is subject to a very direct approach, for example, in relation to AIDS (to go back to that example) and to particular pressures of the kind I referred to in relation to oral contraception and breast cancer and so on, and to meningitis—relating to a specific problem that comes up. Generally, however, I think it would probably be right to maintain a broadly investigator-led approach to biomedical research. I do not think it would be particularly right to reckon that that was the main way of dealing with research into the delivery of NHS services, for example, or for that matter the delivery of personal social services.

Chairman] Well, perhaps we might turn to that aspect, health services research.

Lord Kearton

2111. We have been very struck by the enormous burden placed on you and your colleagues in trying to get satisfaction for all the competing demands, but one thing that has struck us also is that operational research or research into Health Service efficiency and delivery thereof could be a means of making more money available for the things the public want, and we have been struck by the fact that remarkably little effective health services research seems to be in place. There is more in place in Scotland than in England, and they have a relatively small expenditure. They have been able to make savings of several hundred million pounds a year. Let us take one of the regions we visited, with three teaching hospitals, they have done investigations which show that the cost of some operations varied by 63%. They found that the referral for cardiac treatment for angina patients varied by up to five to one between different districts. In other words, the variability of referrals and therefore the demand on the Health Service was enormous and there seemed to be very little follow-up as to what was the most effective way of providing particular treatment for particular diseases, and that struck us as an area where a great deal more work could very much pay for itself in savings.

(Mr Newton) I would certainly not dissent from the need to pay particular attention to those areas which might be concerned, in the example you have given, with the effective use of clinical resources among the resources of the NHS. I have some reservations about the suggestion that not very much of this kind is being done, though I would relate it at least as much to the effort which unfortunately does not come within the terms of these discussions or, indeed, under the heading of the research budget in the Department to improve the consistent flow of data and information of a kind that enables us to make precisely these assessments as between individual health authorities and hospitals. You will, I am sure, be aware of what is known, again in the trade jargon, as the Korner data which is beginning to come on stream and are certainly aware of the efforts—the so-called resource management initiatives—which we are funding in, I think, six areas round the country in the health field, the hospital field, and a number of others in the community care field precisely to try to establish mechanisms for getting better information of that kind and, not least dare I say, to enlist the better co-operation of clinicians with managers in making effective use of that information when you have got it, which is perhaps the most important problem of all.

2112. That is a most encouraging reply. We would feel from the evidence we have had there is a great deal more to be done which could be very usefully done and extremely cost effectively done. We fully recognise that in order to have people capable of getting the data that will take time. When we talked to the Health Service Unit in York University they said there was an acute shortage of

[Lord Kearton *Contd*]

health economists and it would be a long time before there were sufficient health economists available. I wonder if enough publicity is given to the fact that this is an area where there is great scope for people to make careers.

(Mr Newton) May I reflect on that point, because I always hesitate to say enough publicity has been given to any good thing. Certainly it is an area in general where we are very anxious to encourage further progress, not least because, whatever the amount of resources we have for health or health research, we must make the best use of those resources at any given point in time. The crucial part of those resources is clinical resources and I do undertake very clearly to you that we attach considerable importance to that. We spend a lot of time and effort gaining the co-operation of the Joint Consultants Committee, for example, in the resource management initiatives to which I referred just now. We shall be devoting a good deal of effort in the next few months to an area not so far touched on which relates to the primary care field in, for example, trying to improve the flow of information about referral and reporting patterns to doctors so that they can gauge with a degree of self-assessment, as it were, the effectiveness of their practices which have a knock-on effect specially in relation to referral patterns and the pressures on hospital services. So I suppose at the end of the day, Lord Kearton, I am slightly resisting the implication of your question that we are not too fussed about this. Having been doing a lot about it, I think we are taking it fairly seriously.

2113. I am most encouraged by your answer. We still respectfully say perhaps "Not yet enough".

(Mr Newton) If you are asking whether we can do more, then there is almost nothing about which you could ask that question where one would not have to acknowledge that we could still do more.

Chairman

2114. Do you relate your effort and the figures given to us to the money which has been spent in this area of cost effectiveness and efficient operation research to the possible savings which could be achieved? It is a very small sum of money related to a business the size of the National Health Service.

(Mr Newton) Well, yes, I accept that it looks small if you simply look at that figure which is why I sought in answering Lord Kearton a moment or two ago to broaden the point to the whole area of the data analysis and information. I cannot actually give you a figure unfortunately about what we spent either on all the data analysis and information flows we already had in place let alone the effort to introduce the new Korner data flows. I could give some figures on resource management initiatives, though I am afraid I have not got these with me this afternoon. But if you took account of the total effort of the Department to improve the information on which decisions are taken about the use of resources including clinical resources, it is far larger than any figure you will see related to the research programme as defined for the purposes of the statistics you have got.

Chairman] That is one aspect, and a very important one. The other aspect is really to have adequate information for effective management and particularly cost effectiveness. Cost effectiveness is not a very easy thing to measure in the medical field, we appreciate that.

Lord Kearton

2115. Also, if you are going to get effective management you will have to tread on a few toes. Some clinical specialities must have higher priority than others and this is going to lead to all sorts of troubles. A small example is hip operations; they are relatively cheap, remarkably effective and prolong the years of useful life. There are many other operations where the chances of success are pretty small and the chance of a useful life afterwards is also pretty low. At the moment it is a question of who knows most about getting public attention to get the funds. At some stage the Department of Health will have to give some sort of guidance on this sort of thing.

(Mr Newton) The Department gives a measure of guidance on what it sees as the main priorities for the development of health services at any particular point in time. I would accept that that does not go as far as your question implies. I think at the moment we would certainly see this as an issue which is best met by collective discussion amongst the clinicians in particular locations and in discussion between the managers and clinicians in particular locations, on the basis of the better information which you were seeking in some of your earlier questions. Indeed, the resource management initiatives, to which I have now referred several times I am afraid, are very much directed towards putting people in a position where they can discuss these issues more sensibly than they are able to do at present.

2116. When are you after a discussion going to say "This is what we are going to do"? What is coming through is a flavour of it being left at the end of the day to self-government by the clinicians themselves as to decisions on priorities.

(Mr Newton) I think that would not be an unfair summary of the position at present, and I think our main concern at this moment in time is to improve the extent to which clinicians do collectively discuss those problems and seek at least to arrive at some informed view of what they should be doing in a particular area.

Chairman

2117. It is the follow-up there, if I may say so, Minister, that really concerns us. It is not discussions one wants, it is effective research which will lead to savings, more effective use of resources and so on, which should pay for itself—more than pay for itself.

[Chairman *Contd*]

(Mr Newton) Perhaps I ought to be rather more explicit. I understand what Lord Kearton is saying, which I think I can sum up in a nutshell, to be that research and information are all very well but there needs to be a decision-making process to follow on from that, and how is that to be achieved? In a number of places there are now, I believe, beginning to be more effective arrangements for the clinicians collectively to look at these issues of what the priorities should be. We would certainly wish to encourage that still further and make sure that the information on which it can be done effectively is there. What I would hesitate about is going the step further that Lord Kearton, I take it, is urging on me and stepping in, as it were, with a political dictation to those same clinicians of what the decision should be.

Lord Kearton

2118. I do not see how you are going to escape it if you are going to avoid having an open-ended commitment.

(Mrs Currie) Could I just offer the thought that I do not think the Committee should underestimate the amount of effort that is currently going into generating the type of information that you, Chairman, are after. The Korner reforms are an enormous exercise and are involving us in considerable expenditure. Similarly in the Family Practitioner Committees the computerisation of age sex registers is a multi-million pound exercise. I suspect maybe at some stage we are in danger of having so much information that we will be bogged down and cannot act on it. For example, we already know that the cost of looking after patients in the Health Service in Chester is around £400 a week and the cost of looking after patients in the Health Service in the City, in Hackney, is three times that. The difficulties come not only in the sort of discussions that have to follow, which Lord Kearton has identified, as to which type of operation one should do, but also in a much more mundane and humdrum way when one compares the cost of doing, for example, a hernia operation in one place with the cost of doing a hernia operation in another place, which might actually be in the same hospital. That then runs into quite difficult discussions with clinicians on their own individual medical practice, and no doubt they all claim that they are doing it the right way. We are not always in a position to contradict them on that, although the more evidence we have the easier it is to convince them.

Chairman

2119. The Korner data which is a very interesting programme is only concerned, is it not, with activity and cost? It is not concerned with the outcome, is it?

(Mr Newton) I think it would be right to say it is principally concerned with activity and costs, but until you have identified those more clearly than we are often able to at present, and above all more quickly than we are often able to at present (because one of the great problems with most NHS data is, is it really last year's or the year before's "Bradshaw's") then it is quite difficult to know what other questions you should be asking and what other work you need to do in order to tackle the discrepancies or problems that arise.

2120. How do you see the Regional authorities coming into this? When you are talking about this type of thing you are getting down to the coalface, as you might say, and that very much comes within the regions, does it not? Do you see this as something where the Regions should be active in investigating and taking action as a result of those investigations?

(Mr Newton) Yes, I do. One of the things (and again I am afraid this is a wider point) that we have sought to do, going well back before my time—I think it is something Norman Fowler took a particular interest in when he became Secretary of State and it has followed on from there—is to really strengthen the managerial and co-ordinating role of the Regions in relation to their member Districts, and I think a good deal of progress has been made in that direction, and Regions are accepting more and more of a responsibility for the sort of activity that you have in mind in your question.

2121. Is that left to their discretion or have they got some hypothecated funds available to them for that type of work to make sure they do it, as you might say? The impression we got was this varies enormously from one Region to another.

(Mr Newton) As with many other things it will vary from one Region to another. There are no hypothecated funds for research of the kind you have in mind, I think I am right in saying that.

2122. This might be something for consideration, perhaps?

(Mr Newton) We have a dilemma of a kind which keeps emerging in a way in this conversation in one way or another, which is, in this case, between a way of managing the Health Service which devolves managerial responsibility and places responsibility for organisation and other matters relatively near the ground rather than having everything referred up or second-guessed through a long chain, and trying to get our own way in what we perceive to be the right thing to do from the centre, and it is a balance all the time.

Lord Kearton

2123. One of the things we found in America which is a great home of free enterprise is that they are trying to quantify their problems very considerably, so lists of hospitals are being compared where the mortality rates vary enormously. For example, they have found that the chance of coming out alive in one hospital is five times higher than in another and those statistics are published. Equally, both the state funds and the private insurance companies are now setting ceilings on what you pay for particular operations, and so on, in an attempt to cut down the whole thing and bring it down to size. Is this a

[Lord Kearton *Contd*]

line you have looked at and perhaps may be tempted to follow?

(Mr Newton) It seems to me it is a line that would be quite difficult to follow in quite that way in a health system which is funded in a totally different way from that which you are talking about, but if you are asking me whether we would wish to see and are seeking to bring about the public availability of more comparative information which will enable both the public to exercise their choices and other pressures and indeed Regional Health Authorities and ministers to exercise pressures on those authorities or hospitals which are manifestly out of line, the answer is yes.

2124. On your point incidentally about the two very different systems, the American system is essentially Federally funded over 50%. The idea that it is entirely private just is not correct.

(Mr Newton) If I remember rightly from the GDP figures the Americans spend something approaching 10%. I think it is a bit under half which is taxpayer financed, but it is not far short of half. On the other hand, in this country you have got a very small amount of private health.

2125. It is about 10% here.

(Mr Newton) Yes, by comparison with the state sector, and I think the difference is sufficient to make it difficult to draw straightforward parallels.

2126. What comes over very clearly was they were just as concerned about the runaway costs as anyone else would be, whether it was the Office of Bureau and Management or private charges or whatever. They all had this very much in mind.

(Mr Newton) Yes, and I saw something from the Federal Republic only yesterday indicating very similar problems there. It is off the track perhaps of much of this afternoon's conversation, but one of the things I am constantly saying to people who think there is some magic answer to all the pressures on the Health Service is that every health system round the world is facing problems of various kinds arising from rapidly rising demand.

Lord Rea

2127. The question I was going to ask has to some extent already been covered by the Minister, but I was interested in the evidence that was given to us by several witnesses here and also on our visits to various research units in London and other parts of the country—namely, the increasing encroachment on research and teaching time—well, particularly research time, teaching comes first—on clinical academics. You did say a body has been set up to discuss this whole matter, but it was repeatedly mentioned to us that increasing demands on the clinical side of clinical scientists, people who have a foot in both camps, was squeezing the time they devote to research. I wondered whether the Department has any ideas that touch on this? Perhaps you could just give us the name of the body again, and tell us what its composition is.

(Mr Newton) Yes. You are quite right in saying that. I am conscious of this problem because it is mentioned to me almost every time I go anywhere near a teaching hospital. There are various angles to this, but one particular way of tackling these difficulties which I referred to was by a body called the Steering Group on Medical Education which in fact is due to have its first meeting on 19th January. Its remit is to bring together the national agencies with an interest in medical education and to consider how the current arrangements for undergraduate medical education can be improved to ensure that the policies and programmes of the bodies concerned are properly co-ordinated and directed, and the membership of that, as I indicated earlier, includes all the people who might have an interest in that and it is expected to consider in the course of its remit how the teaching and research interests and commitments of academic clinicians can be arranged to best effect, so it is quite significantly related to the problem that you have raised.

Chairman

2128. Research is actually spelt out there in the terms of reference, is it?

(Mr Newton) It is not actually referred to in the terms of reference, but it is certainly expected that the research interests, as well as the teaching interests (because the two things are really quite closely tied together) will be looked at in the course of its remit. It leads me just to mention (not in order to choke off any further questioning) the issue of the funding, if you like, of teaching hospitals through the so-called SIFT element—the Service Increment For Teaching—in the allocation process which is something else being looked at as part of the review of the resource allocation working party arrangements, because there are persistent suggestions that the teaching and again to that extent research interests are not sufficiently clearly reflected in the allocation of funds. It remains to be seen whether what we are doing on that shows that to be the case.

Lord Rea] Additionally, the fact that research is not actually specifically put in the remit we feel is a pity because, although patient care comes first, teaching tends to come second because the students are there and they need someone to talk to, and to direct their work, and the research may well take third place if it is not specifically mentioned.

Chairman

2129. It almost gets pushed out.

(Mr Newton) May I take specific delivery of that comment and, indeed, draw it to the attention of one of my Permanent Secretaries who is chairman of the particular steering group?

Lord Rea] That would be very helpful.

Chairman

2130. I think this is terribly important because with the pressures on the Health Service itself,

[Chairman *Contd*]

patient care, and the pressures on the universities with the cutback on the UGC, there is a very serious reduction in the amount of time devoted to research in the clinical field. This has been recognised in the United States, I know; they are not quite under these pressures, it is perhaps not quite so significant, but in spite of that they are having to protect time for clinical research to make sure it is not eroded by these other pressures. I do not know whether you considered that. This has been raised with you, you say, every time you go into a medical school. I am sure you must be concerned at the end of the day that the service will suffer if the research programme does not go ahead.

(Mr Newton) As I said, we have in looking at the wider problem of the pattern of staffing and the career prospects in hospitals sought to take special account of the research interests. I cannot say that the specific question of protection for research time is included in that work but I do not know if there is anything Dr Metters would like to add.

(Dr Metters) There was a special subgroup of the "Achieving a Balance" team which looked at research indications and there is an annex to the report which sets out the protection—I think that is the right word—that is going to be afforded to research posts, particularly those in the registrar and training grades. I have to say the annex is perhaps rather loosely worded because at this stage the precise effects of "Achieving a Balance" cannot be determined and it is important to keep them under review to see that research staff are remaining available as the "Achieving a Balance" proposals begin to have that effect.

2131. I think this is very important because it also reflects back in the fact that unless there is a feeling that the clinical research is protected good people are not going to go into research at all.

(Mr Newton) In my own earlier reference I had in mind the context of protected time rather than protection for, as Dr Metters indicated, research posts. It has been much more the protection of the posts that we have focused on, but there has been to that extent a definite effort to protect the research effort in the work we have been doing on the hospitals' medical staffing structures.

Baroness Lockwood

2132. Lord Chairman, I think my question relates very much to this. The Minister has referred on a number of questions to "Achieving a Balance" and has just referred to the staffing and career prospects of the clinicians in hospitals. "Achieving a Balance" was obviously intended to try to bring about a better balance of staff geographically, to improve their prospects within the hospitals and to safeguard research, but all the evidence that has come through to us seems to be to the contrary; that there is now a squeeze at registrar level within the hospitals and research is the area that is suffering. As colleagues have said, patient care and then teaching are the first two priorities and research is the third priority. Not only have we had that put to us, but we also had it put to us that because of this there is a danger that the best students are now not going into academic medicine but are going into general practice because they see better career prospects in general practice. Now, it may be as a matter of policy that the best students should go into general practice; obviously we want a good standard there. But it is rather disturbing to hear from the teaching hospitals that this is the tendency, that the students who would have gone into academic research are not now taking up that option. I wonder if you have any comment to make on that and, if it is a trend which has come to your notice.

(Mr Newton) Yes, and indeed one of the considerations which underlay all the work which, as it happens, my predecessor Barney Hayhoe set in hand that led to the recent agreement on various steps to achieve the balance, as it were, did in fact reflect not only worries about the career pattern within the hospitals in relation to hospital medical staffing but the effect that was having in making it difficult to attract people into being hospital doctors of whatever kind as distinct from going into general practice. I do not think I am breaching any state secrets at all in adverting to the fact that, if you look at last year's Doctors' and Dentists' Review Body report, you will find the proposed pay increase—indeed the implemented pay increase—for general practitioners was not greatly but slightly lower than that for hospital doctors and that did indeed reflect the thrust of the Department's evidence which was also related to precisely this point, that at the moment I think the generalisation is not that we do not need good general practitioners—we do, we want to see improvements in the quality of primary care—but as a generalisation our judgement would be that general practice is relatively more attractive than hospital doctoring to an extent which needs redressing to some degree.

2133. The difficulty about the pay of academic clinicians also comes into it and again this is an issue which has been raised with us on a number of occasions, that this is also a deterrent. Although they may get their pay award, if it is several months behind the National Health Service doctors and consultants, then they are never going to catch up. One other aspect of careers in the service is the non-clinician scientists. Has the Department, or have you, any views on how their career prospects could be safeguarded because again this is an area that has been brought to us as being one that needs attention?

(Mr Newton) I understand this is something we have raised with the Department of Education and Science but it goes rather wider than the health field and, I think, cannot be resolved in relation to that field alone.

2134. We recognise there is a difficulty for such scientists: in the clinical field there is a natural progression, but for the non-clinician scientists then very often they are a single person working with the

[Baroness Lockwood *Contd*]

clinicians and their career prospects do not seem to be considered very much.

(Mr Newton) I shall note with interest any recommendations the Committee has to make in that field, as with—in relation to something you said earlier, Lady Lockwood—the evidence which generally you say you have collected about the current position in relation to research, because we are ourselves very interested obviously to look very carefully at all the evidence of the problems we are seeking to tackle, some of which obviously reflect the general sense of pressure in the acute sector which we have sought to recognise in one way shortly before Christmas, but which is a continuing aspect of matters to which we are directing attention.

Lord Kearton

2135. I think it was in this morning's *Financial Times* that there was an article by Dixon (who is the education correspondent) regarding pay studies of all the sorts of new professions entered by graduates and so on. If you look at the medical journals or the *New Scientist* and look at the advertisements for post-doctoral people working in medical research, the salaries are derisory compared with the starting salaries for much more junior people in industry and commerce. If this continues, you are not going to get the people for obvious reasons, because the graduates get neither the salaries nor the career structure if they go into medical research.

(Mrs Currie) I am just recalling when it was the other way round! When nobody was going into industry because the salaries were so much lower.

2136. But that has changed, thanks to the new Government!

(Mr Newton) I shall look forward with interest to the observations the Committee may make on this subject, but I am not in a position to make a pay offer this afternoon!

Lord Taylor of Blackburn

2137. I would like to change the subject a little bit, (and this is nothing to do with the discussion that I am having with Mrs Currie at the present time regarding community funding into the hospitals) and ask you this: medical charities at the moment may very soon be spending more money on research than the MRC. Is this a good method of establishing priorities?

(Mr Newton) I made some indirect comment on this earlier on in referring to the work done by the medical charities reflecting the public voting with its pocket. To the extent, therefore, that that does reflect the public's own choice of what it sees as particular important problems to which attention should be directed, it does not seem to me to be inherently wrong. Again, if you press me further to say what the relationship between the one and the other, the charities and the MRC for example, should be, then I have to say I cannot actually think of one, but it does not seem to me to be inherently wrong that the medical charities should be spending such large sums of money.

2138. No, but is this not a case for the funding of the MRC to be greater?

(Mr Newton) Well, I can see that a case could be built on those figures, but I am not quite sure that it would be a very firmly based case, unless somebody can give me a good reason for supposing that there is a point of principle that publicly funded research ought to be larger than privately funded research.

2139. We may be able to do that when we send in our report.

(Mr Newton) I rather doubt if you would be able to make the case in principle, if I may say so. At the end of the day what you will be making is a practical case, dare I suggest, for suggestions that the MRC ought to have more money. I would beg leave to doubt that you could do that by reference to the amount spent by charities.

Chairman

2140. It would be a bad thing if the MRC got less because more was coming through the charities, because it is not being spent on the same thing.

(Mr Newton) I am not quite sure—it is probably my slowness of mind, but I am not sure I have quite understood.

2141. Well, if as a result of more money coming through the charities less money was made available to the MRC——

(Mr Newton) I understand exactly, yes. It is a point I am familiar with in relation to cost improvement programmes, income generation and the like! The incentive to act in a given helpful way is reduced if no benefit is seen to be obtained from it. I think I would have to recognise that there could be difficulties if every time people gave an extra pound for cancer research they thought a pound was going to be taken off some other part of the research budget or indeed some other part of the cancer research budget. Yes, that would clearly be very difficult. I think it would be difficult to suggest that that is what is happening at the present time.

Lord Adrian

2142. Insofar as the research charities are independent bodies, is the NHS happy to have a very large part of the research done by independent bodies in this way—a larger part than the Government is doing? I do not know that this is a major point, and I think what you have said already indicates that you are reasonably happy with it, as I think I would be, but I just wonder whether you are really happy with it?

(Mr Newton) I think, as I say, I see no reason for being either happy or unhappy in principle at that position. What I would be unhappy with is if there were evidence to suggest that a great deal of that money was being wasted in some way on either poor quality research or on extensive duplication of research, but I am not really aware of any significant evidence that that is the case.

[Lord Adrian *Contd*]

2143. I am very glad to hear you say that, because a great deal of the thrust of the ABRC's report is that DES money, especially that which has gone through the hands of the universities, has not been managed properly. Now, I do not know whether you think that the management of the charities is substantially better than that in the universities, or not, but——

(Mr Newton) I think I would be a very rash man if I was to venture a judgment on that proposition! Charity voluntary bodies of all kinds are very variable animals, but I would certainly, on what I have seen and what I have learned in the period that I have been a Minister for health and in the period when I have had a rather longer contact in all my DHSS ministerial capacities with voluntary organisations (many of whom pay for a lot of research), say that many of them are very well managed indeed.

Lord Rea

2144. One of the things that struck those of us who had the good fortune to go to the United States was that the Federal share of research funding is far greater in relation to charitable funding in the US (the land of free enterprise) than it is here.

(Mr Newton) And did you draw any conclusions?

Lord Rea] Well, there seemed to be a lot of extremely important research going on in the US which is funded Federally, and the conditions there for clinical scientists and medical researchers generally were much more favourable, as we found by talking to a number of them.

Baroness Lockwood] I think there is another aspect to this. The charities do a very useful job in publicising certain diseases and that is how they manage to drum up the support so that people are prepared to vote with their money, because there is more awareness of the problem and its likely effect on an individual family. That is a very useful contribution that the charities do make, but if you analyse the medical charities, again you find that there are gradations. There are some charities that have a very real emotional pull and others that have much more difficulty in raising the funds, and therefore it does seem that most of the money goes into a small number of areas of physical disability, and some of the other areas which would benefit by an injection of greater funding are perhaps neglected.

Chairman

2145. The corollary to that is that their money does not go into basic research and training, which of course is what is going to underpin them in the future.

(Mr Newton) I hear Mrs Currie uttering noises of dissent!

(Mrs Currie) The major cancer charities fund a considerable amount of very basic research, and are to be praised for the work they do. I was just thinking that it works the other way round as well, referring back to Lady Lockwood's point; public policy and the things we think are important do rub off on the public and then on giving. I am told that the income of the British Heart Foundation has risen very dramatically recently and I hope it is some reflection of the campaigns we have been having about heart disease. I think also it would probably be right to say that public policy is reflected in the Chancellor's efforts to encourage people to give to charities, tax concessions and so on, and therefore people want to set limits on that. The more people give and the more it is directed to the kind of work that supports us, the happier we are.

Lord Kearton

2146. Following what Lord Rea said, when we visited the National Institute of Health we were very impressed. Some of the institutes there had a budget of a million dollars, some of which went in-house and some to universities and so on. We were told that 85% of all research in the States is Federally funded, and we did see the major charities, Howard Hughes and the other ones, and they all said that the money required for basic research is entirely a Federal responsibility, and that is the way it should be. They went further even and said that we were getting so under-funded in this country on basic research that, whereas ten years ago we were almost in the lead on many aspects, we were now becoming a country hardly worth visiting. This may be an exaggeration, but it is what we were told. When we tackled some of our own heads of major laboratories here with that statement they said it is exaggerated, but that is the trend, basic research here is desperately underfunded in view of known needs. There is evidence of that.

(Mrs Currie) On which, no doubt, the Committee will make its judgement.

2147. I happen to be associated with the British Heart Foundation and its problem is to find sufficiently qualified people on whom to spend the money. There are beginning to be not sufficient qualified people available to do the quality research we would like to see.

(Mr Newton) That returns us to a point that came up in one of your earlier observations. We will wish to look, as we would in any event, fairly carefully at the evidence the Committee produces and the conclusions it draws from that evidence. I am sure that will go for all my colleagues. I ought perhaps just to make the point, having had the figures thrust in front of me, that of course these comparisons between public and privately funded research rest on comparisons between the members of the Association of Medical Research Charities and MRC, which of course leaves out a great deal of publicly funded research, by the UGC and in other ways, and it remains the case that publicly funded research as a total, particularly if you include that part of the pharmaceutical industry research in a sense publicly funded through purchasing, the

[Lord Kearton *Contd*]

PPRS publicly funded research, is vastly larger than privately funded research.

Chairman] Would you like to revert to the pharmaceutical industry for a moment, Lord Adrian?

Lord Adrian

2148. I was wondering whether you were wholly satisfied. You mentioned the pharmaceutical research of half a billion or something of that kind, which is a very important and indeed very effective aid to the National Health Service. Are you happy that your drug procurement policy, and indeed the Government's policy on copyright and licence and so on really do not put the willingness of the companies to make this effort in any jeopardy?

(Mr Newton) It was very much one of the factors that was taken into account in renegotiating the Pharmaceutical Price Regulation Scheme in 1985, a bit before my time, or 1986. I think it came into force in 1986. One of the factors is the stated purpose of the PPRS, to promote a strong and profitable pharmaceutical industry capable of such sustained research and development expenditure as should lead to the future availability of new and improved medicines. Our estimate of the current total spending by the pharmaceutical industry is rather larger than the figure you used, £612 million, and our estimate of the R&D support element in NHS medicine prices currently is some £300 million so looked at on that analysis, we are funding in that sense something like half of a very large research effort indeed. There was a period of very sticky relations between the Government and the pharmaceutical industry, both the home-based pharmaceutical industry and those that are American sub-sidiaries and subsidiaries of companies elsewhere, as I am sure you all know, and I spent quite a good deal of time in the 15 months or so I had been Minister in talking with the companies to establish how they saw things at that moment. I must say I am satisfied that they believe the new PPRS is a great deal better and represents a substantial advance on the problems they felt they were experiencing beforehand, and it does give them a secure base, though there will always be matters where there is room for argument.

Chairman

2149. I must say, Minister, we got the impression when this was put to us that there was a danger that this country could become unattractive, particularly for the international joint companies.

(Mr Newton) I think there was a danger——

2150. And other countries were offering better conditions, and they could very well transfer their research elsewhere.

(Mr Newton) My assessment at the moment would be that there certainly was a danger associated with some of the controversies that occurred during the renegotiations of the PPRS and as a result of the controversy over the introduction of the selected list scheme—the so-called limited list scheme—but that the way in which the selected list scheme has settled down in the companies' experience, admittedly at an early stage of the working of the new PPRS, has allayed many of the anxieties and that that danger is not one which I would see.

2151. You think that has receded, do you?

(Mr Newton) Yes.

2152. There are also complaints about the patent situation.

(Mr Newton) There certainly have been complaints about the patent situation and especially the Licences of Right issue, where you will know that the Government has got legislation on that very subject in front of, I think, your Lordships' House at the moment in the shape of a clause in the Copyright Bill.

Lord Sherfield

2153. Last night.

(Mr Newton) I am sorry, I was rather preoccupied with other matters last night and failed to follow what was going on in your Lordships' House.

Lord Erroll of Hale

2154. Mine is a relatively small point, but I think it is worth mentioning. A number of witnesses and the written evidence have referred to the growing use of commercial consultants by the DHSS and even in certain research areas, particularly in the area of health service as such. We were wondering why you are going for them and not employing more the Health Service researchers direct. Also when consultants are employed, what steps are taken to assess the quality of the consultants' research and their findings? When it is MRC research work, for example, their efforts are, shall we say, scrutinised very often by their peers in related fields, they are subject to scrutiny and discussion. But that does not seem to be apparently the case where it is a commercial consultant who is given an assignment for a fee and who then goes off and does it. You are landed with the report, which may be good, bad or indifferent. I would very much like to hear your views on the growing use of commercial consultants.

(Mr Newton) There are various reasons why we might, and indeed on occasion do, decide to employ commercial consultants. One would be that they would be seen to have relevant experience in the field in which we are particularly interested. One would be availability: that is to say, our need to have the results of whatever exericise it is at a stage which might be sooner than it was within the capacity of an existing unit to provide. One, which I suspect takes us into an area you may wish to touch on also at some stage, is confidentiality because academic health researchers expect to publish their results and there would be circumstances in which the Department might wish to have research undertaken without the results necessarily being expected

[Lord Erroll of Hale *Contd*]

to be published. What we do is to review consultancy commissions before they are placed to consider specifically if the DHSS supported units could undertake them. As to the question of the evaluation of individual consultants or consultancy firms, I would ask Dr Metters if he can tell us something about that.

(Dr Metters) There are in-house arrangements for the assessment of quality, benefit, efficiency, and value for money of consultancy reports as these come through. It is true that this does not involve the same peer review mechanism of published research reports, but it would be wrong to say the reports are just received and not assessed or their benefits and value.

(Mr Newton) If the Committee is aware of the totals spent on consultants' fees incidentally by the Department, I could possibly just make the point that the overwhelming bulk of the expenditure in the figures I have in front of me for 1986-87 was, in fact, on social security rather than health and related matters. Out of about 17 million over 12 million was on social security and about 4.5 on health and personal social services.

2155. It is still quite a sum.

(Mr Newton) I am not suggesting it is insignificant. Equally I can see no particular reason for shying away from the use of consultants in quite a number of circumstances. It may well be that is the most cost effective thing to do. I would hope we would make sure (and we intend to make sure) that it is the most cost effective thing to do, taking account of the needs and sometimes the time scale on which we need to set rules, but certainly I would not wish to see a position in which we were in some way banned from using consultants and forced either to use or set up units that we might have a long term interest in.

Chairman

2156. In view of the highly specialised nature of the operation of the medical service, would you not see some merit in building up, as you might say, some strong in-house teams, and by "in-house" I include the academic field. We met one or two teams already in existence which seem to be doing pretty good work.

(Mr Newton) That is right.

2157. And there seems to be merit in building up on that so you get a degree of professionalism built into your own system.

(Mr Newton) I would not dissent from that as a generalisation, and I would have thought maybe we have the same units in mind. I forget their exact titles, but there are units at York and at Kent, for example, both of which we have used and continue to use pretty extensively because they have produced a good track record and to that extent we have sought to build them up and made use of them in various ways, both with social security and health, in fact.

2158. If you did do that would you not see this type of group of individuals with the experience which they accumulate as being a possible source of supply for your future National Health Service managers? At the moment you go outside for them, and they suffer from not knowing very much about the NHS.

(Mr Newton) Use the people from those units as a source for managers in the NHS?

2159. For recruitment and training for ultimate employment in the NHS management side.

(Mr Newton) Well, at the end of the day I rather think that is a matter for them. We have insisted on pretty open recruitment procedures, not least in the initial stages of the introduction of Griffiths management, when there was an extensive exercise to offer those outside the Health Service, as it were, the same opportunity to be considered as those who were already in-house. But to the extent that the people you are talking about might prove a recruitment policy, I think it is up to them to put themselves forward for recruitment, as it were, and to apply for posts.

2160. I would have thought that as an operating organisation you have a responsibility to try and ensure the natural progression and training of people for these important posts, and this might be a way of doing it. However, that is just a thought.

(Mrs Currie) The point has been put to us that the kind of research that we are interested in has to be done on site. It has to be done with access to other academics and clinicians and so on. I think it has actually been spelled out quite well in this year's nurse review, because we had to investigate setting up nurse units from scratch ten years ago, and that was the view that was taken. We have the DHSS Cancer Screening Evaluation Unit run by Professor Chamberlain—we have only just agreed to do that but it has to fit very closely into the existing academic framework and hierarchy, and if we are to preserve the quality of its work, my guess is that it needs to have that strongly academic philosophy and therefore possibly be rather more within that kind of career pattern than the NHS management side.

2161. But if you look at industrial experience, of which some of us have had quite a bit, you can recruit some very good people through the research door whom you would not attract through other doors, and they ultimately progress to top management positions.

(Mr Newton) There is clearly no way in which we rule that out as a possible approach.

2162. But it could be another reason for having it and strengthening it.

(Mr Newton) All I am querying is this: again, one could obviously argue endlessly about the balance. What I would be resistent to, I think, is a suggestion that we should somehow seek to avoid the use of consultancy. I think that would reduce the standards of some of our own units who might feel

[Chairman *Contd*]

insular, or those we support who might feel insulated from competition. Equally it would sometimes mean we were not using the best people to do a particular job at a particular time.

Lord Erroll of Hale

2163. I think it is a very admirable policy which has just been ennunciated. My question was not intended to be critical—merely inquiring.

(Mr Newton) No, but there have been some grumbles about our use of consultants on the scale we do use them, and I was conscious of that in answering your question.

Baroness McFarlane of Llandaff

2164. I was heartened to hear Mrs Currie mention the nursing research units twice, but in England there are just the two units—one in nursing education and one in nursing practice—and that really means that for a profession which I am sure you are very much aware has 509,000 workers, they are operating with a lack of basic knowledge about their practice, or without a scientific base, and I think that most nursing practice is carried out by received wisdom or by guess or by God.

(Mr Newton) Just like politicians!

2165. Yes, except that that would be a dangerous mob to follow! However, I think the same arguments could be made of other emergent health professions, and in sectors of the medical profession like general practice, where increasingly the importance of their role in the Health Service is evident. I wonder to what extent the Department seeks to identify those areas where greater research is needed, and how one seeks to put an increasing component of research into their role and make available access to academic financing. I am very conscious that your department has done a great deal particularly in my own area of nursing and in fact I had one of the first nursing research fellowships in the country so I owe a great deal to what the Department has done personally, but when you look at the size of the nursing problem and our lack of scientific basis for practice, I wonder what the Department's views are?

(Mr Newton) This is a point in which Mrs Currie has taken a particular interest, and I will ask her to respond.

(Mrs Currie) I think we are delighted that Baroness McFarlane is indeed one of the people who has gone forward to "an influential post" as it says in paragraph 3.3.1 of the Chief Nursing Officer's evidence. I do not think we would dissent from the view that has been expressed. There was hardly any nursing research ten years ago. The first nursing research unit was set up in 1977, the second in 1979, and the list of papers they have published I think shows the standards that they are able to achieve. The Nursing Practice Research Unit has concentrated on those aspects of clinical policy such as bed sores and infections which clearly can be improved by better nursing practices. That opens up, as they rightly say, all sorts of other possibilities. But they are also doing rather more fundamental research now because they are starting to try to develop definitions based on the patient's own reflections on whether they are getting better or not and what that would mean. That gives us, therefore, a very valuable piece of material against which we can balance some of the more medical research which tends to be oriented to individual problems, individual diseases and illnesses. We can certainly see far more of that work coming forward. We can certainly see an enormous benefit for having studentships and so on. We have just agreed to make some developments in midwifery and to fund two posts in Oxford. Baroness McFarlane says one, there were none till six months ago. I am delighted that we are at last able to make some specific proposals on midwifery, which I know the profession has welcomed. To a certain extent how far we go on this depends a little bit on the results, the quality of results, and how quickly we are able to put them into practice. I recall some correspondence I had with Lord Hunter not very long ago about the European cancer programme in which he offered me very gently the stricture that we can go on learning more and more but it is what we do with the results in the end that really does count. We are pleased with the progress and we see it as having hopefully a high priority in future.

Chairman

2166. Would you see a larger funding for research in the nursing field coming forward?

(Mrs Currie) I think that goes back to the question we aired earlier of what is "need" and what is "large". How does one know? It is about half a million pounds out of about 12 and a half million directed at research at the moment.

2167. Which is pretty small.

(Mrs Currie) Which is small.

2168. In relation to the size of the operation.

(Mrs Currie) There is also quite a lot of nursing research now going on through the Regional Health Authorities. Far more of their effort is being directed to improving practice in particular.

2169. Paid for by them?

(Mrs Currie) Paid for direct.

Baroness McFarlane of Llandaff

2170. Small scale.

(Mrs Currie) Lady McFarlane is quite right, it is small scale, but very often clinical research has shown that a small scale, well directed piece of research produces answers to problems bedevilling people all over the country, so I do not mind that. What I am after has to be the quality of the work. Nursing traditionally is not as strongly academic or research-based a profession in the way medicine has been.

Chairman

2171. You will not attract them unless there is this opportunity for a higher academic activity, will you?

(Mrs Currie) That is certainly true, but I think the——

2172. It is self-defeating a little bit.

(Mrs Currie) That would be true if we had nothing and if we were not planning to do anything, but we have two research institutes now which have, I think, rather substantial reputations and considerable output, and one of the projects they are doing is a programme of research with a considerable future and a considerable input from our own Chief Nursing Officer as adviser as to where they might be going and how we can use the information.

Baroness Lockwood

2173. Are the small Regional research projects disseminated in the same way as other research projects are disseminated? If they are small, sometimes they are contained within the Region. Are there any benefits that would be transferable there? Dissemination is important.

(Mrs Currie) My own personal feeling is that one of the difficulties is we do not have the popular research journals in nursing that we have in medicine. We do not have a *Lancet*, a *BMJ* and so on. The existing magazines are trying to publish material, and what one hopes is that as good quality clinical research is done and comes out, so the mechanisms for promulgating it do improve. I would certainly do everything I can to make sure the good results of research are well distributed and that they are not just left at the level of the ward or hospital where the work has been done.

Lord Kearton

2174. In health services research do you look at the efficiency with which the nurses are deployed or used? We have had figures—of course, you must be well aware of this—of the number of nurses per million population or thousand beds which are much higher in this country than in America, Germany, France, Italy and so on. Yet we are always reading of the great shortage of nurses. What deduction do you make from this?

(Mr Newton) I think before one draws any deductions from them one needs to look not in a particularly cynical spirit at the figures and be aware of some of the differences possibly as to what is defined as a "nurse" in various countries for the purposes of these statistics—I see some friendly nods from Lady McFarlane—and also at the number of doctors in the different countries, because there the balance would actually be rather different.

2175. Twice as many doctors and half as many nurses.

(Mrs Currie) And their life expectancy is worse than ours.

Baroness Lockwood] The doctors or the patients?

Lord Kearton

2176. Is it part of your research?

(Mr Newton) One of the things we are concerned with is the whole variety of differences. It is simply going back again to some of the issues about the comparative use of clinical resources, in this case nurses in different places. If you are making inquiries, as we are increasingly seeking to do in our discussions with the Regional Health Authorities, and press them to do in discussions with the district health authorities, if you start making inquiries as to the variations in shift overlap from one site or one authority to another, you begin to raise a number of questions.

2177. If you visit hospitals up and down the country the difference in staffing levels of nurses is visible to any casual visitor.

(Mr Newton) That is precisely the point. We are anxious to see more research and, indeed, to see this better explored. Nursing is one of the areas—I hope I carry Lady McFarlane with me in this as well—in which the data base is perhaps more deficient than many others in the Health Service. When either Mrs Currie or I start asking questions about some of these points in the Department at the moment we find some of the information we want is not at present there, but it should be there as part of the improvement of the information base, the information systems, going on at this very moment.

Baroness McFarlane of Llandaff

2178. Part of this relates to the level of funding for such a large service and the kind of research that needs to be carried out into the manpower provisions. For instance, I was in Alberta just a few weeks ago, and their research budget for just one state in Canada was $2.5 million. Dollars it may be, but it is rather different from the order of funding for nursing research in this country.

(Mrs Currie) If I may just come back a little bit on that and the point you were putting earlier about promulgation of information, part of the work of the DHSS library now is indeed to publish an abstract of nursing research which I see, and I must say I am quite surprised at the amount of work that is being done, and we are able to influence it to some extent perhaps in the field of child care; since we publish this we can see perhaps where one or two of the gaps are. My concern is to make sure the quality of the work is actually academically very high, because I think that is the main way it will both attract the sort of staff we are interested in and influence our thinking and that of managers and indeed have a confidence in the funding in the future.

[Baroness McFarlane of Llandaff *Contd*]

2179. Yes, but it is a chicken and egg situation: unless there is some prime funding then the quality of the research will never develop.

(Mrs Currie) We would take that on board.

Lord Rea

2180. We have had a number of witnesses who have said that although there are academic departments of general practice, or primary care, attached to all medical schools, now they run on rather a shoestring. They could do with more funding, and they would like to be able to train many more doctors to do research, because the interest is there. What does the Department think about this? Do you recognise this as a growing point?

(Mr Newton) Yes, I think we do, and we have set up a number of research units based on departments of general practice and encouraged existing general research units to include general practice work within their programme of work, and that includes training general practitioners in research methodology and assisting in advising others who might wish to undertake research within their practice. I think taking your question a little bit wider, one of the things I asked my heavily loaded private office to do just shortly before coming over here was to flag up the various references to what might be called in the broadest sense "research into the improvement of primary care generally", including in this case pharmacy, and the working of Family Practitioner Committees and their organisation of services that are included in the "Promoting Better Health" White Paper, and there are significant references to efforts which are directed to studies to improve the quality of primary care. That goes rather wider than the point you raised, Lord Rea, but I think it is related to the general tenor of our discussion.

Chairman

2181. That White Paper does not refer to research at all, does it?

(Mr Newton) I think it refers in various ways to the matters which I would take to be within the remit of our talks this afternoon. For example, it refers to the encouragement of the continued development of information and communication technology, and computerisation in primary care, especially with regard to health promotion and the prevention of ill health; to the possible expenditure of additional money on pharmacy practice research—that is paragraph 6.12; to funds for research into the working of Family Practitioner Committees; a range of developments at both local and national level, including developing and testing new approaches to the provision of local services, and to studies in service provision; and I am just reading through hastily the three paragraphs where we have already commissioned some studies by a couple of FPCs: one in Cheshire and one in Leicestershire. Now, depending on how narrowly you define research, none of those are references to research by general practitioners. They are projects related to the improvement of practice in primary care whether by doctors or other primary care.

Lord Rea

2182. I am aware that if the database of the FPCs is improved and more modern record keeping systems including computers are used it will be easier for doctors to do research in primary care, but I still feel there is a need for a further boost to training for GPs in research methodology. There are a lot of GPs who do undertake small research projects almost entirely funded out of their own pockets at the moment, because there is so little encouragement. The system does not encourage them to work and develop their research skills at the moment as much as I think it should.

(Mr Newton) That is an interesting point, and given that we shall be extensively talking no doubt to the General Medical Services Committee (GMSC) of the BMA in the course of negotiating whole ranges of issues that arise from the primary care document, that is perhaps something we can look at.

Chairman

2183. This would come under the so-called LORS programme, would it? The Locally Organised Research programme?

(Mr Newton) It would certainly be open to Regional Health Authorities, though as it happens they do not have direct responsibility for Family Practitioner Committees and therefore obviously for primary care provision. It would I think be open to them to use funds in this way, but the Committee will be well aware that the general objective of the White Paper "Promoting Better Health" is to provide additional funds for the promotion of various desirable moves in primary care and not least in general practice, and it is clearly one of the things that could be considered in negotiation with the GMSC.

2184. And this could come up from the ground roots, you might say?

(Mr Newton) Indeed. I think in general I would always wish to be going with the grain rather than against it, as it were.

Lord Rea

2185. There is plenty of enthusiasm there to be channelled or gathered.

(Mr Newton) Yes. In my experience there is great enthusiasm for a whole variety of developments amongst younger GPs, wherever I go. The problem is finding the money to meet all these ambitions as fast as anybody would like.

Lord Sherfield

2186. Minister, we have been informed that the arrangements for obtaining permission to publish the results of research have recently been changed, and some of our witnesses have expressed some fear that the new system may have the effect of limiting

[Lord Sherfield *Contd*]

the academic freedom to publish. How would you allay that fear?

(Mr Newton) We have already tried to allay it in a whole variety of ways, and I think I can best try to allay it, to pick up your direct question, this afternoon by reaffirming clearly and in this sense very publicly that it is not our intention to bring about this result. The Government's general presumption will continue to be that research of this kind would be published. The changes were intended first of all to enable us to safeguard ourselves on legal grounds where, for example, we might ourselves be open to challenge in circumstances where a particular report was published, and to fulfil what we understand to be our obligations in relation to Crown copyright under the arrangements delegating certain decisions to us from the Controller of the Stationery Office. There was no more to it than that. There is no sinister intent. We do not wish to suppress the publication of properly conducted research which does not raise the problems on which I have touched.

Lord Adrian

2187. I am sure that is the intention. I am sure it used to be the intention within the NRDC in previous times. But I do recall an instance of a research student of mine who was working on a SERC grant and submitted a paper, indeed his PhD thesis, to NRDC who sat on it for 18 months with an embargo of its publication. As I understand it, in the new arrangements it is the absence of a time limit after which the worker may publish if he has not heard anything about it. It has to be said that the 18-month embargo was exceedingly embarrassing. More specifically the young man was an American over in this country for three years to do his PhD, and he went back to America.

(Mr Newton) I hope I shall be allowed to pass on commenting on something that happened with the National Research and Development Corporation presumably some time ago.

2188. My point is that, with the best will in the world, delays can happen and more particularly delays happen when papers get sent into very large organisations, of which I count yours as one.

(Mr Newton) I can certainly acknowledge that delays sometimes happen when papers are sent into our very large Department, yes.

2189. This is something very real.

(Mr Newton) I understand that and I hope the way I responded indicated that I acknowledge it.

Chairman

2190. May I ask you, in view of your very firm statement, why not revert to the previous contract in which everybody had confidence?

(Mr Newton) Essentially for legal reasons. To put in slightly different terms what I said a few moments ago, a review in 1986 of the then standard conditions showed that their wording was not fully consistent with the responsibilities for Crown copyright delegated to the Secretary of State by the Controller of HMSO, and did not provide the Secretary of State with reserve powers over publication of material resulting from research commissioned by the Department, even in cases where legal advice might be against it. The wording was carefully revised to take account of those points. I ought perhaps to say quite specifically there have been several examples in recent years where under the old-style contract researchers were asked to change passages in their reports before publication and it was not always simple to reach agreement. As it happened, we did manage to resolve the problems on the occasions that I have in mind but, frankly, if we had not, there could have been real difficulties of legal action following the publication of the report. Unfortunately I cannot go further than that and give you a more concrete illustration of at least one of those, indeed two. On the principal example I have in mind I am told if I did I should be raising confidentiality problems of a different character, identifying the studies that have given rise to the problems. I can only say to you in the best possible way it was no more than what we felt was needed to deal with genuine problems which we were advised could cause difficulty and appeared likely, at least in theory, to create potential difficulty, but the presumption remains that publication takes place, that this is literally only a safeguard against the Department itself being liable in some sense or in breach of its own obligations in respect of Crown copyright. On the 28 days notice point, we simply felt that there were practical reasons for not actually writing in an unconditional undertaking of a kind I can appreciate specially, having had experience in social security where there are also some time limits which give rise to a considerable difficulty for practical reasons. The 28 days had to be hedged about with a lot of safeguards about whether or not it was practicable to get the necessary legal advice and complete the necessary legal considerations in 28 days. It is probably not worth all that much. What we have done is to state the intention of letting researchers have a decision within 28 days whenever possible or explaining the reasons for the delay in other cases where a decision will take longer to reach, and again that has been done in good faith and I can only repeat that there is no sinister intention here. We simply felt the Department needed to be properly safeguarded for the reasons that I have outlined, but in general our firm wish is that academic researchers, whether commissioned by us or anybody else, should be entirely free to publish their findings.

2191. I think that is very good to hear from the point of view of the Committee. I can only hope that that gets widely known among those who expressed considerable concern during the evidence we have been taking during this last year.

(Mr Newton) We are making persistent efforts to make it widely known, and one of my senior officials has written I know only within the last two

[Chairman *Contd*]

or three days to one of those who has expressed particular concern in public print. I am afraid I cannot promise to be able totally to allay every possible suspicion of ministerial intent, but I hope that what I have said today will at least help to do so in the mind of this group, at least.

2192. Well, that covers the questions that we had in mind, Minister. You have given us a very good session, if I may say so, and we appreciate very much the time that you have allotted to us. In fact, you have given us more time than some of the members of the Committee expected! We are extremely grateful to you. Is there anything more you would like to say to us before we close the session?

(Mr Newton) I do not think I have some valicdictory message for you beyond saying I am grateful for the courtesy with which you treated the four of us. I too have found it a very interesting session which has raised a number of important issues to which none of us (certainly I) can be confident we know the answers at the moment, and we look forward with great interest and genuine interest to your report, and the recommendations it makes—even if it would probably be the way of the world that we shall not be able to say "Yes" to all of them the following day!

Chairman] Well, we hope at least to some of them! Thank you.

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